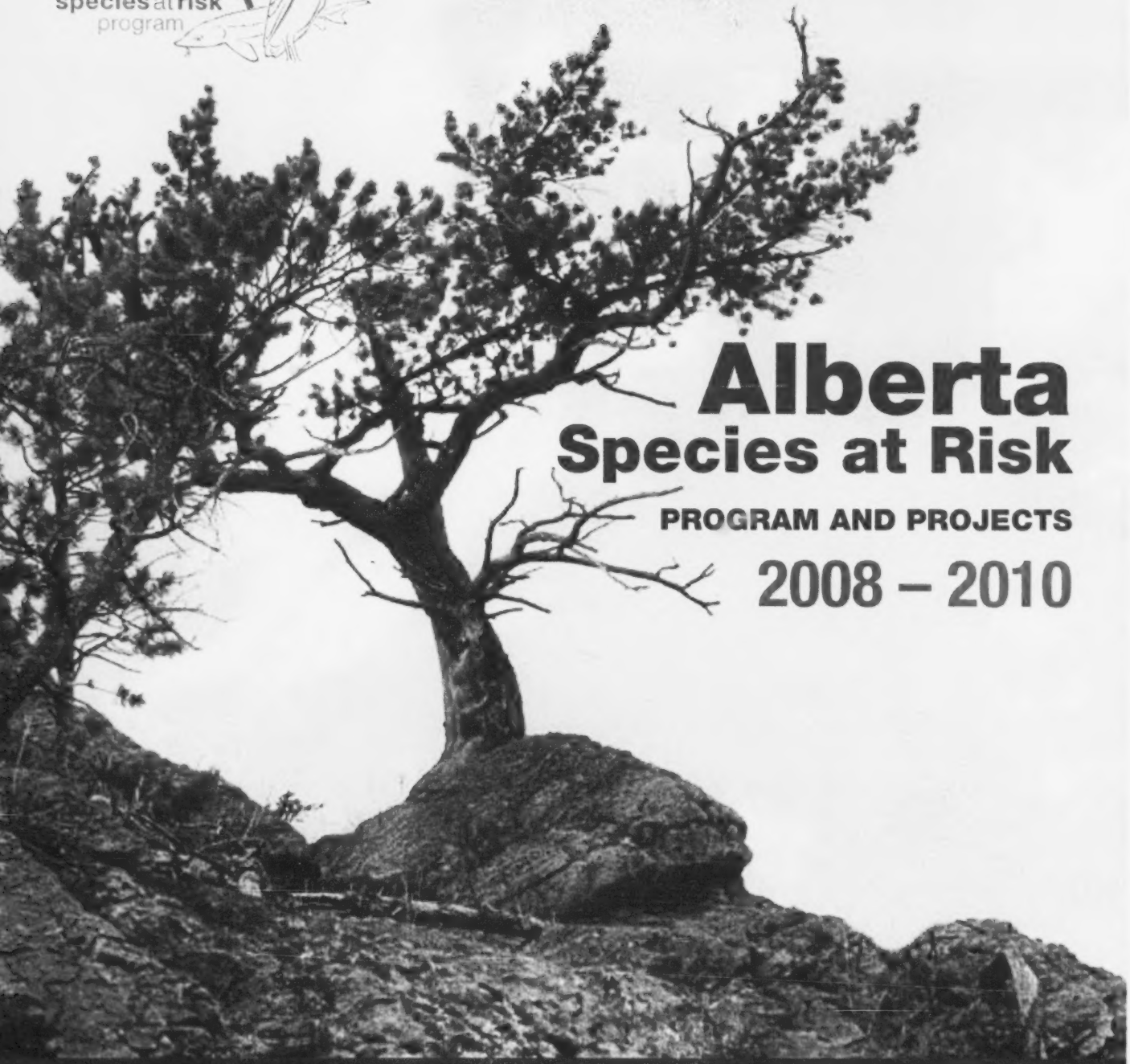
alberta's species at risk program



Alberta Species at Risk

PROGRAM AND PROJECTS

2008 – 2010

Government of Alberta ■

Alberta Species at Risk

PROGRAM AND PROJECTS

2008-2010

ALBERTA SPECIES AT RISK REPORT NO. 137

SEPTEMBER 2010

Government of Alberta ■

Publication No.: I/464
ISBN: 978-0-7785-9176-4 (Printed Edition)
ISBN: 978-0-7785-9177-1 (On-line Edition)
ISSN: 1496-7219 (Printed Edition)
ISSN: 1496-7146 (On-line Edition)

Illustrations:	Brian Huffman
Cover Photographs:	Joyce Gould (whitebark pine) Gordon Court (bison, ferruginous hawk, gophersnake) Dave Prescott (northern leopard frog)
Graphic Design & Layout:	Broken Arrow Solutions Incorporated

For copies of this report visit the Alberta Species at Risk Program web site at:

http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/

OR contact:

Information Centre – Publications
Alberta Sustainable Resource Development
Main Floor, Great West Life Building
9920 - 108 Street
Edmonton, Alberta, Canada T5K 2M4
Telephone: (780) 944-0313 or 1-877-944-0313

This publication may be cited as:

Fish and Wildlife Division. 2010. Alberta Species at Risk Program and Projects 2008-2010. Alberta Sustainable Resource Development, Fish and Wildlife Division, Alberta Species at Risk Report No. 137, Edmonton, AB, 68 pp.

table of contents

Acknowledgements | iv

Executive Summary | v

Introduction | 1

List of Contacts | 7

Cooperators and Funders | 8

Status Assessment and Legal Listing | 9

Prevention, Conservation and Stewardship Projects | 13

Amphibians and Reptiles | *15*

Birds | *17*

Fish | *21*

Plants | *23*

Multi-Species and Landscape Initiatives | 27

Additional Projects | 31

Management Planning | 33

Recovery Program | 35

Recovery Planning | *37*

Recovery Implementation | *41*

Related Sources | 67

Definition of Status Ranks | 68

acknowledgements

Key contributions were received from staff with the Fish and Wildlife Division during the preparation of this report. Cindy Kemper prepared the report and coordinated its production. Certain excerpts were written by Sue Cotterill in earlier versions of this report. Editorial comments from Robin Gutsell and Dave Ealey were also greatly appreciated. Project and recovery implementation summaries were provided by the project supervisors or implementation leaders, as described. Overall guidance and coordination of the 2008-2010 Species at Risk Program was provided by Richard Quinlan.

As in previous years, the success of the 2008-2010 Alberta Species at Risk Program is a result of tremendous commitment by several organizations and individuals. The Species at Risk Program gratefully acknowledges agencies that have funded or actively participated in the projects and recovery planning and implementation programs outlined in this document, as listed on page 8. However, we would like to extend a heartfelt thank you to all landowners, and to individuals within or outside of those organizations, who graciously donated or volunteered their time, expertise, access to land, equipment use, and sense of humour, to our efforts. All of these contributions cumulatively led to the small and large successes that the Species at Risk Program has realized to date. Their sense of stewardship over Alberta's species at risk and the habitats on which these species depend is powerful, awe-inspiring, and critical to our program's success. While we regret that these individuals are becoming too numerous to list, we are grateful to have an ever-expanding community of support.

Many individuals within the Fish and Wildlife Division have worked tirelessly on species at risk initiatives. The Species at Risk Program would like to commend the dedication and enthusiasm of the Species at Risk staff, fisheries and wildlife colleagues in regional offices and headquarters, and project collaborators and assistants. Their efforts have been instrumental in building and shaping the program, which continues to make significant advancements to the conservation and protection of species at risk in Alberta.

Finally, we thank the Fish and Wildlife Division itself for continuing to support the Species at Risk Program.

executive summary

The Alberta Species at Risk Program continued to expand during 2008-2009 and 2009-2010, shaped by the ever increasing recovery and conservation needs of species at risk in the province, and by the release of *Alberta's Strategy for the Management of Species at Risk, 2009-2014*; the *Strategy* which formally expanded the Species at Risk Program into six program areas, from five.

Emphasis continued to be on the program areas of recovery planning and implementation; however, additional resources were directed toward prevention during 2008-2010. The focus on recovery represents a real need to identify and implement actions that will recover or maintain viable populations of at risk wildlife and plant species in Alberta; the increased attention to prevention signals our commitment to reduce the number of species that will be listed as *Endangered* or *Threatened* in the future. As of the end of the 2010 fiscal year, 17 recovery plans have been developed and approved, and recovery plans for an additional 12 species are in development. Additionally, management plans for several Species of Special Concern are currently in development.

Involvement of affected and interested stakeholders has been integral to the success of the Species at Risk Program. Since the inception of the Species at Risk Program, Stakeholder participation has been outstanding on recovery teams and during recovery activities. Engagement of stakeholders through direct participation, partner funding or in-kind support and through the Endangered Species Conservation Committee continues to be a key strength of the program.

The federal *Species at Risk Act* (SARA) continues to influence the delivery of species at risk initiatives in Alberta, particularly those related to recovery. Alberta, in turn, has continued to influence the development of federal policies related to the interpretation and implementation of *SARA*, and is committed to developing provincial recovery plans that meet both federal and provincial requirements.

This report highlights achievements of the Species at Risk Program from the 2008/2009 and 2009/2010 fiscal years. It includes 15 recovery planning updates, nine Species at Risk project summaries, recovery implementation progress for 15 species, and a short description of some other important initiatives that Species at Risk staff are undertaking.

canadian toad

introduction

Alberta Species at Risk Program Overview

This report highlights the achievements and progress made through the provincial Species at Risk Program between April 2008 and March 2010. The Species at Risk Program is coordinated by the Fish and Wildlife Division, Alberta Sustainable Resource Development. As in previous years, it is only through the cooperative efforts of many individuals, and several non-governmental, provincial and federal agencies that the accomplishments of these past two years have been realized.

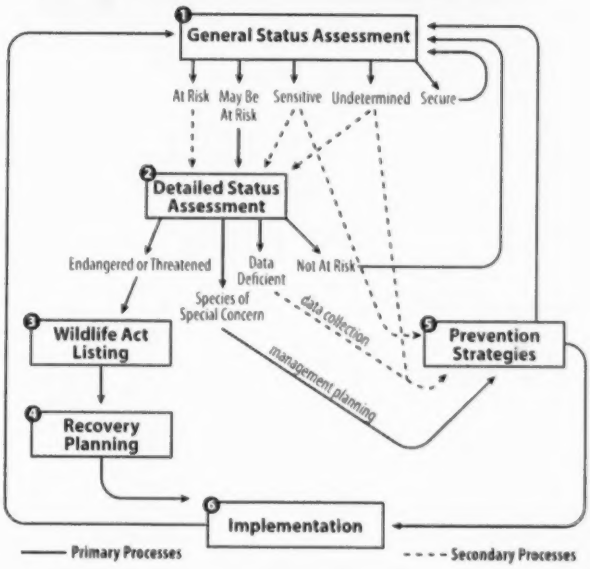
During its infancy, the Species at Risk Program focused on inventory and monitoring projects, general status evaluations, and detailed status assessments. Although these program areas continue to be integral to the program, both recovery planning and implementation, with emphasis on multi-species and landscape-level approaches when appropriate, have become more prominent components of the program. More recently, additional resources have also been allocated to the prevention program area to address data gaps of species for which we have little information, with the ultimate goal of keeping these species off the *Endangered* or *Threatened* species list.

Program Framework

As outlined in *Alberta's Strategy for the Management of Species at Risk 2009-2014*, the Alberta Species at Risk Program is composed of six strategies for conservation and recovery of wild species:

1. **General Status:** Rank the relative security of all wild species.
2. **Detailed Status:** Assess and document the risk of becoming *Endangered* for those species having a general status that suggests serious concern regarding current or future population viability.
3. ***Wildlife Act* Listings:** Formally designate species that are *Endangered* or *Threatened*, as well as Species of Special Concern.
4. **Recovery Planning:** Develop Alberta Recovery Plans for all *Endangered* and *Threatened* species.
5. **Prevention:** Develop Management plans for Species of Special Concern, to prevent them from becoming *Endangered* or *Threatened*.
6. **Implementing Recovery and Management Actions:** Coordinate and facilitate the implementation of recovery plans and management plans, with actions being carried out by government, non-government organizations, and private individuals.

FIGURE 1: Species at Risk Program Framework



These components work synergistically so that advancements in one area lead to the further development and refinement of the other components. Details on the six steps follow, and are illustrated in the accompanying figure.

1) General Status Assessment
The general status of wild species in Alberta is evaluated every five years. This process acts as a coarse filter, identifying those species that require more focused attention, either for protection or accurate evaluation. In 2005, preliminary status assessments were prepared for 2811 species of birds, mammals, amphibians, reptiles and three groups never before assessed: vascular plants, bivalves and odonates. This greatly expanded the scope of the general status assessment process.

2) Detailed Status Assessment
Detailed status reports provide a comprehensive and current summary of a species status. They are prepared or updated for selected species that have received a general status of May be at Risk, Sensitive, or Undetermined. In rare circumstances, a species that has been assessed by the Committee on the Status of Endangered Species in Canada (COSEWIC) but whose species group has not yet been assessed by the general status assessment (e.g., moths), will receive a detailed status report. Using these detailed status reports and any additional pertinent information, an independent body of scientists, the Scientific Subcommittee (SSC) of the provincial Endangered Species Conservation Committee (ESCC), completes a formal status assessment for the target species using criteria developed by The International Union for Conservation of Nature and Natural Resources (IUCN). The SSC then provides the ESCC with a formal status evaluation and subsequent conservation recommendations.

3) Wildlife Act Listings
The ESCC is a broad stakeholder committee including scientists, government and corporate land managers, resource-based land users and conservation organizations. The committee reviews detailed status assessments and the ensuing scientific assessment of species status from the SSC. The ESCC then makes recommendations on legal designation, preparation of recovery plans, and conservation actions to the Minister of Sustainable Resource Development (the Minister), who has the final responsibility for legally designating species as *Endangered* or *Threatened*, and initiating recovery and conservation measures. Legal designation of birds, mammals, amphibians and reptiles as *Endangered* or *Threatened* under Alberta's *Wildlife Act* prohibits disturbance, killing, possession and trafficking of these species, and provides immediate protection for nests and dens. The *Wildlife Act* and associated Wildlife Regulation were modified in 1997 to enable the listing of fish, plants, invertebrates and fungi, as *Endangered* or *Threatened*.

Seven species of plants and six species of fish have been designated as *Endangered* or *Threatened* since fall 2007 through listing in Schedule 6 of the Wildlife Regulation. However, the automatic prohibitions do not yet apply to the above-mentioned taxonomic groups, and appropriate regulations are under review. For wildlife species that do not meet the criteria for *Endangered* or *Threatened* listing, non-legal categories including Species of Special Concern, Data Deficient, and others have been created.

4) Recovery Planning
Following legal designation, recovery plans are required within one year for *Endangered* species and within two years for *Threatened* species. The focus of a recovery program may be on recovery or maintenance of a species, depending on the particular circumstances leading to the species' listing. Ultimately, the intent of a recovery program is to improve the status of the species, ensure its long-term survival in the wild, and remove the species from the *Endangered/Threatened* species list.

A recovery team, composed of a variety of stakeholders appropriate to the species and issues involved, is typically formed to develop a recovery plan that provides advice to the Minister on actions necessary to conserve the species and/or its habitat. Once completed, the plan is submitted to the Director of Fish and Wildlife, who completes an internal review before forwarding it to the Minister with a recommendation on its approval. Upon accepting the plan from the recovery team, the Director will provide it to the ESCC, who will also provide recommendations to the Minister regarding adoption of the plan. If the Minister approves the plan, it is adopted as the Provincial Recovery Plan. Teams also evaluate the progress of implementation of approved recovery plans, and may assist with development of subsequent plan updates.

5) Prevention Strategies
It is generally more efficient and cost-effective to protect species before they become *Threatened* or *Endangered*. Any species that has been formally designated as a Species of Special Concern or evaluated as Sensitive at the general status level is eligible for special management actions designed to prevent the species from becoming more at risk. A management plan may be used to outline key strategies in an effort to prevent up-listing to a more critical status in the future.

In other cases, prevention strategies may take the form of identifying data gaps for *Data Deficient* species, and allocating resources for inventorying and monitoring of those species, such that enough data can be collected to properly assess the species' status. Upon receiving ministerial approval, a recovery plan will be used as a resource for program development within Sustainable Resource Development, and will be integrated into the programs of other departments, as needed.

6) Implementing Recovery and Management Actions

Successfully implementing approved recovery and management plans is the true measure of how well the Alberta program provides for the needs of species at risk. Success can only be achieved if appropriate changes are made in the way we manage a species and its habitat.

Although the Fish and Wildlife Division oversees the implementation of recovery actions identified in a recovery plan, the actions themselves may be carried out by government, industry, academia, conservation organizations or individuals. In some cases, implementing recovery may include the need for regulatory changes. This may require ministerial involvement in seeking the support and participation of other departments and levels of government.

Actions identified in Species of Special Concern Management Plans are coordinated by the provincial species lead, and like those in recovery plans, may be implemented by a variety of government and non-government organizations. Implementation of management plan actions will usually rely on existing structures and organizations and on the development of new and creative partnerships with government, industry, landowners and land managers.

Recovery and management plan actions should lead to direct improvement in conditions of a species' population and/or habitat. Actions may include inventory and monitoring, habitat management and conservation, public education initiatives and other activities. In some cases, plans may provide recommendations to revise existing, or develop new, policies and guidelines to assist in the long-term maintenance of the species and its habitat.

Program and Project Priorities

Two annual provincial Species at Risk Program budgets totalling $806 250 were allocated to the general status exercise, species at risk projects, SSC and ESCC operations, and recovery planning and implementation. This figure does not include substantial in-kind contributions to these projects from within the Species at Risk Program itself. Salary and staff operational costs were covered from funds outside the Species at Risk Program.

All project proposals were critically reviewed by Species at Risk staff and ranked using the following criteria: 1) status of the target species; 2) existing commitments (e.g., ministerial priority, recovery planning and implementation, ongoing project requiring completion); and 3) the scope and impact of the proposed project (e.g., provincial vs. local scope; offering direct vs. indirect conservation benefits). Project prioritization evolved to ensure that progress would be made in all program areas, from general status assessment to prevention, and that the program would be active in all parts of the province, with a focus in priority areas of the province.

In total, $717 050 (89%) of the provincial Species at Risk Program budget was allocated directly to species at risk projects and Recovery Planning and Implementation. The accompanying three charts show the breakdown of these project funds by program area, risk category and taxon (species' groups).

FIGURE 2: Percentage of Program Funds Directed to Program Area

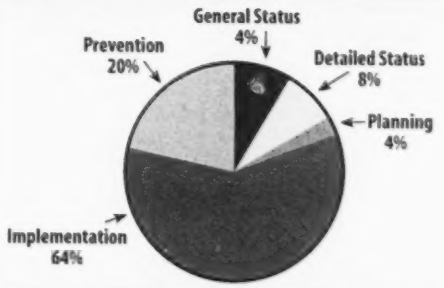


FIGURE 3: Percentage of Project Funds Directed to Risk Category

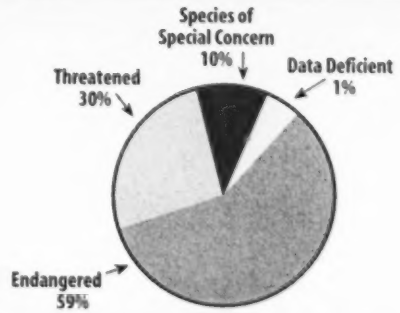
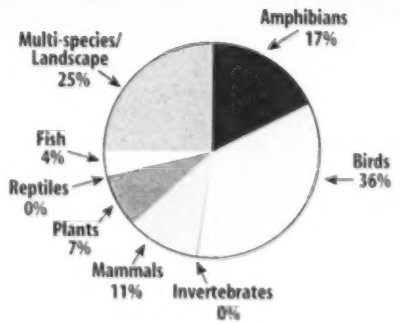
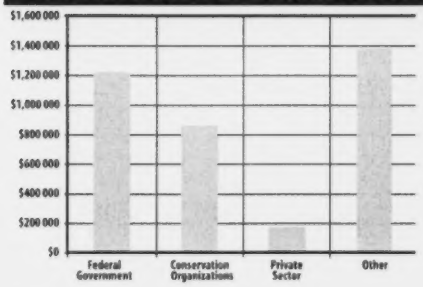


FIGURE 4: Percentage of Project Funds Directed to Species' Group



Funding and in-kind support from sources outside the Species at Risk Program played a significant role in the successful delivery of our species at risk initiatives. This support was received from a variety of sources including the private sector, conservation agencies, provincial government agencies and other sources within Sustainable Resource Development, and the federal government. Partner funding and in-kind support was valued at more than $3.6 million, roughly five times the Species at Risk Program allocation for projects.

FIGURE 5: Compilation of Partner Funding Contributed to Species at Risk Projects[1], 2008-2010



[1] For projects led or co-led by the Fish and Wildlife Division

Significant Program Developments During 2008-2010

In 1997, a *Strategy for the Management of Species at Risk in Alberta* was developed to focus the direction of the budding provincial Species at Risk Program for the following 10 years. As this current Species at Risk Program report and previous versions before it demonstrate, many accomplishments and milestones have been made since then, and much has been learned as the program continues to evolve. With this continuous growth and development it is important to reassess our program direction on a regular basis. To this end, *Alberta's Strategy for the Management of Species at Risk (2009-2014)* was released in 2009. This comprehensive guidance document identifies priorities for the next five years of the program, and its associated species at risk recovery teams, advisory committees, and project partnerships. As we gather more information, knowledge, and experience through new challenges, Alberta's Species at Risk Program will be reassessed on an ongoing basis. The Strategy will be revisited next in the 2013-2014 fiscal year, and will be updated as needed.

The Species at Risk Program has made significant progress in all program areas. The next five-year general status evaluation is scheduled for 2010. However, work has been well underway in anticipation of the 2010 assessment. Detailed status reports printed in 2008-2010 covered species from a broad range of taxa (species groups), including birds, fish, mammals, amphibians, invertebrates, and plants. Eight additional detailed status reports, including five updated status reports, were completed in 2008/2009 and 2009/2010. The information in these reports is used in the detailed status evaluation process, which is integral to the operation of the SSC and ESCC.

The ESCC completed evaluations of Verna's flower moth, western small-footed bat, Athabasca rainbow trout, northern myotis, and grizzly bear and forwarded its recommendations for these species to the Minister of Sustainable Resource Development (see page 11). Four species of At Risk plants and fish – Porsild's bryum, limber pine, whitebark pine, and westslope cutthroat trout, - have been added to the Wildlife Regulation since April 2008; further, we anticipate eventual protection for these taxa similar or equivalent to that currently provided to *Threatened* and *Endangered* birds, reptiles, mammals, and amphibians.

The fifth biennial report of the ESCC, covering progress made between July 2006 and December 2010, is expected to be published at the end of 2010. These reports are distributed to ESCC member organizations, provincial government offices, and various conservation organizations. Other recent communication initiatives included a redesign of the Species at Risk web site as part of a larger redesign of the Sustainable Resources Development web site, continued documentation of project progress through the Species at Risk Report series, and posting completed Alberta Species at Risk Recovery Plans and recovery planning updates online.

In the recovery planning program, one new recovery plan, *Alberta Ferruginous Hawk Recovery Plan 2009-2014* was approved, and an updated piping plover plan was reviewed by the ESCC. Several other recovery plans progressed to the late stages of development; Porsild's bryum, limber pine, whitebark pine, westslope cutthroat trout, tiny cryptanthe, small-flowered sand verbena, lake sturgeon, stonecat, and Rocky Mountain sculpin are expected to be reviewed by the ESCC this fiscal year. Recovery planning was also initiated for Athabasca rainbow trout and short-horned lizard. Lastly, recovery plan updates are being initiated for several plans whose initial five-year timeframe is approaching renewal.

Stakeholder participation has been vital to the working success of the provincial recovery teams. Although stakeholder representation varies from team to team, conservation groups, industry, land users and managers, and provincial and federal agencies are generally involved in these cooperative and consultative initiatives.

The largest proportion of the Species at Risk Program budget is allocated to implementation of recovery and management actions. Much progress has been made in this area over the past two years, as described in detail in the body of this report.

The prevention component of the Species at Risk Program continues to be a challenging area for allocation of limited resources. However, in recent years, a certain portion of our budget has been allocated to data collection for Data Deficient species. Draft conservation management plans have been developed for three Species of Special Concern including Sprague's pipit, long-toed salamander and long-billed curlew, and for one Data Deficient species, the prairie rattlesnake. Management plans for bay-breasted warbler, black-throated green warbler, Arctic grayling, western grebe, and harlequin duck are nearly complete, whereas those for barred owl, peregrine falcon, and bull trout are in preparation. Several more, including Weidemeyer's admiral, western small-footed bat, and white-winged scoter, will be initiated in the upcoming year.

Finally, raising public awareness about the identity and needs of species at risk also played a key role in the prevention aspect of the program. One of the key methods to achieve this is direct contact with the public, and species at risk staff continued to make progress in this area through the recently updated program website, postcards, pamphlets, and presentations.

Provincial and National Program Integration

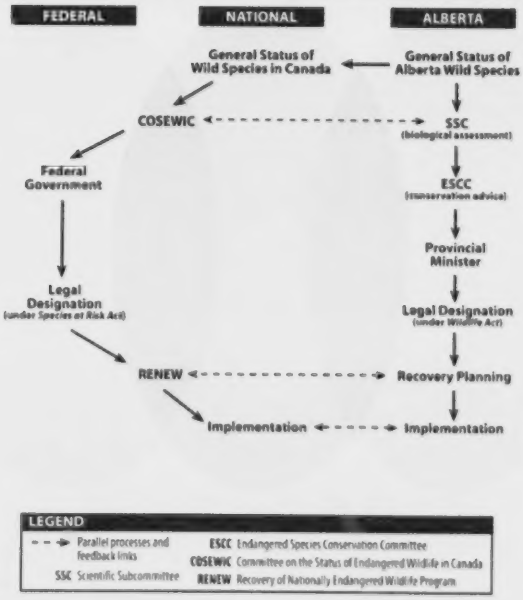
Alberta's approach to identifying and protecting species at risk is consistent with and parallels national efforts in this area (Figure 6). Alberta led the development and implementation of a standard assessment protocol for the national general status system, which links directly to Alberta's general status assessment effort. This protocol consolidates the provincial and territorial status ranks of all wild species into national ranks at five-year intervals.

This consistency in approach continues at the detailed status assessment level. The SSC plays a role similar to that of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Both committees conduct biological assessments of species potentially at risk using criteria established by The International Union for Conservation of Nature and Natural Resources). A listing of *Threatened* or *Endangered* at the national level for a species that occurs in Alberta may trigger a detailed status report in the provincial process, if it has not yet been assessed.

The ESCC represents a unique and progressive component of Alberta's assessment process that is not found at the national level. By involving stakeholders at this stage of the status designation process, the development of effective and viable management and recovery programs is enhanced.

Integration of provincial and national recovery planning is essential, given requirements under the federal *Species at Risk Act* (SARA). Where Alberta is the lead or co-lead jurisdiction for a federally listed *Endangered* or *Threatened* species (e.g., western silvery minnow), provincial recovery plans may be developed to satisfy both national and provincial requirements. Alberta also participates on national recovery teams for federally listed species that occur in the province.

FIGURE 6: Provincial and National Species at Risk Program Integration



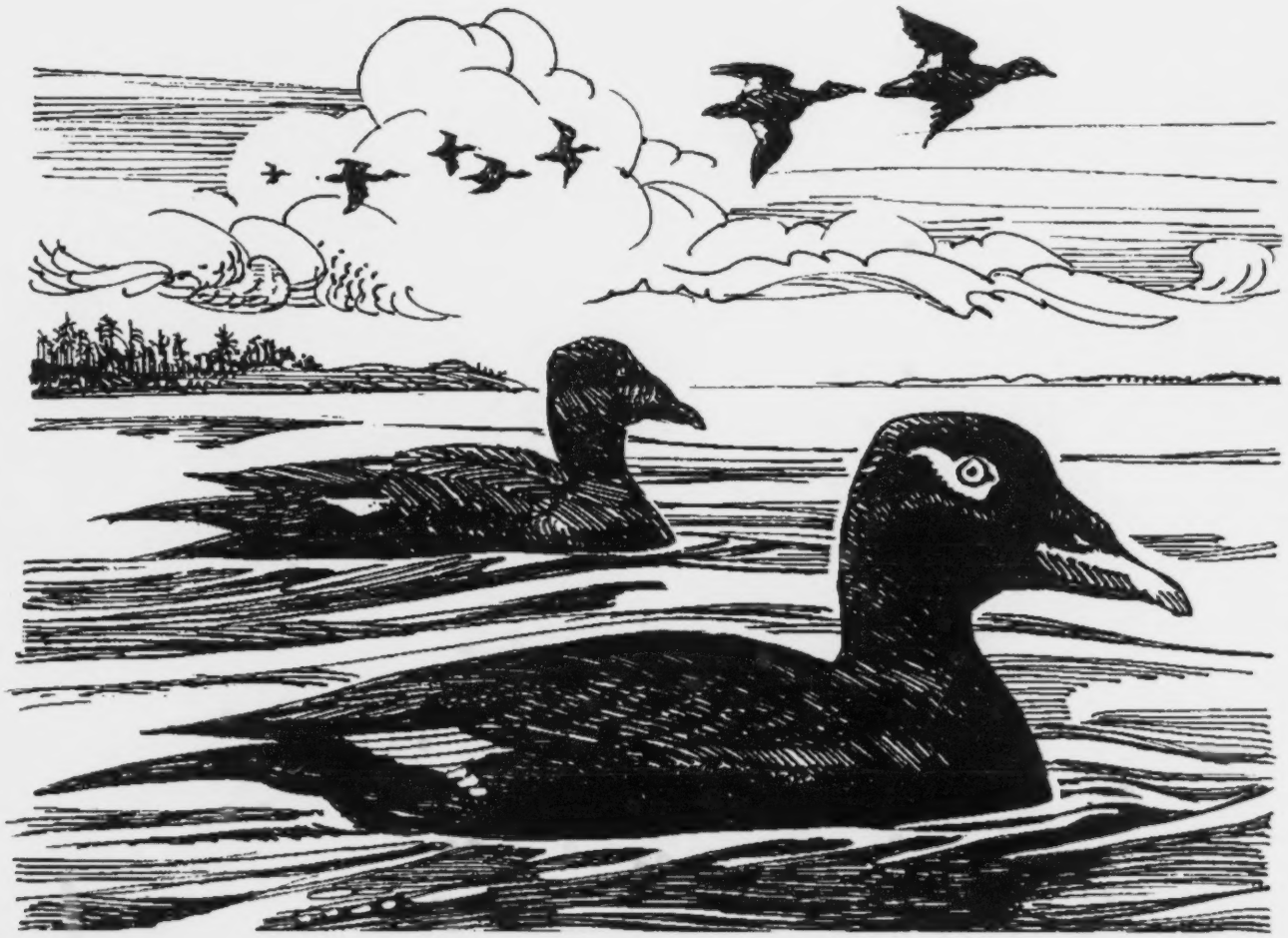
Future Direction

Fish and Wildlife Division staff and partners will continue to work together to create a progressive and responsive Species at Risk Program that includes stewardship and strong stakeholder engagement. This will be critical for managing and conserving species and key habitats that occur on private and crown lands.

The next two years will see the completion of many detailed status assessments and recovery plans. The 2010 general status exercise will once again be posted online in a searchable format. 2010 will once again include all birds, mammals, amphibians, reptiles, fish, bivalves, gastropods, butterflies, odonates, and vascular plants; it will also be expanded to include groups not previously assessed, namely mosses, lichens, and tiger beetles. Alberta will also continue to pursue policy and related actions that will enable the province to meet or exceed *Species at Risk Act* standards for areas of provincial jurisdiction.

Communication about the provincial Species at Risk Program to the public, non-governmental agencies and other provincial and federal departments will continue to be a priority. There will be opportunities for stakeholder involvement and participation in conservation of species at risk. This will be achieved through implementation of approved recovery plans, stewardship initiatives and other activities. As the number of species assessed under the provincial program increases, additional resources will need to be allocated toward recovery implementation.

For more information about the Species at Risk Program, visit the web site: http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/



white winged scoter

list of contacts

Gavin Berg
PROVINCIAL RESOURCE ASSESSMENT BIOLOGIST
Fish and Wildlife Division, ASRD
2nd Floor, Great West Life Bldg
9920-108 Street
Edmonton, AB T5K 2M4

Phone | **780-422-3412**
Fax | **780-422-9557**
E-mail | **Gavin.Berg@gov.ab.ca**

Gordon Court
PROVINCIAL RESOURCE ASSESSMENT SPECIALIST
Fish and Wildlife Division, ASRD
2nd Floor, Great West Life Bldg
9920-108 Street
Edmonton, AB T5K 2M4

Phone | **780-422-9536**
Fax | **780-422-9557**
E-mail | **Gord.Court@gov.ab.ca**

Brandy Downey
SENIOR SPECIES AT RISK BIOLOGIST
Fish and Wildlife Division, ASRD
YPM Place
530 – 8 Street S
Lethbridge, AB T1J 2J8

Phone | **403-381-5526**
Fax | **403-381-5723**
E-mail | **Brandy.Downey@gov.ab.ca**

Robin Gutsell
WILDLIFE STATUS BIOLOGIST
Fish and Wildlife Division, ASRD
7th Floor, O.S. Longman Building
6909 - 116 Street
Edmonton, AB, Canada, T6H 4P2

Phone | **(780) 644-1154**
Fax | **(780) 422-9685**
E-mail | **Robin.Gutsell@gov.ab.ca**

Cindy Kemper
SPECIES AT RISK BIOLOGIST
Fish and Wildlife Division, ASRD
2nd Floor, Great West Life Bldg
9920-108 Street
Edmonton, AB T5K 2M4

Phone | **780-644-8014**
Fax | **780-422-9557**
E-mail | **Cindy.Kemper@gov.ab.ca**

Joel Nicholson
SENIOR SPECIES AT RISK BIOLOGIST
Fish and Wildlife Division, ASRD
301 Provincial Bldg
346 – 3 Street SE
Medicine Hat, AB T1A 0G7

Phone | **403-528-5202**
Fax | **403-528-5212**
E-mail | **Joel.Nicholson@gov.ab.ca**

Dave Prescott
SENIOR SPECIES AT RISK BIOLOGIST
Fish and Wildlife Division, ASRD
Suite 404, First Red Deer Place
4911-51 Street
Red Deer, AB T4N 6V4

Phone | **403-340-4309**
Fax | **403-340-5575**
E-mail | **Dave.Prescott@gov.ab.ca**

Richard Quinlan
PROVINCIAL SPECIES AT RISK SPECIALIST
Section Head (acting): Non-game Wildlife, Species at Risk and Wildlife Disease
Fish and Wildlife Division, SRD
YPM Place
530 – 8 Street S
Lethbridge, AB T1J 2J8

Phone | **403-381-5397**
Fax | **403-381-5723**
E-mail | **Richard.Quinlan@gov.ab.ca**

Arlen Todd[1]
SENIOR SPECIES AT RISK BIOLOGIST

Lisa Wilkinson
SENIOR SPECIES AT RISK BIOLOGIST
Fish and Wildlife Division, ASRD
Provincial Bldg
#203, 111-54 Street
Edson, AB T7E 1T2

Phone | **780-723-8556**
Fax | **780-723-7963**
E-mail | **Lisa.Wilkinson@gov.ab.ca**

[1] Note: Arlen Todd has retired as of July 2010. A provincial species lead has yet to be announced.

cooperators and funders

These organizations are gratefully acknowledged for their financial and in-kind support:

Adopt-a-Plant Alberta
Agriculture and Agri-food Canada
Agrifood Canada
Alberta Agriculture, Food and Rural Development
Alberta Association of Municipal Districts and Counties
Alberta Beef Producers
Alberta Caribou Committee
Alberta Community Development
Alberta Conservation Association
Alberta Conservation Information Management System (formerly ANHIC)
Alberta Cooperative Conservation Research Unit (ACCRU)
Alberta Culture and Community Spirit
Alberta Ecotrust
Alberta Employment and Immigration - Summer Temporary Employment Program (STEP)
Alberta Energy
Alberta Environment
Alberta Fish and Game Association
Alberta Forest Products Association
Alberta Lottery Fund
Alberta Native Plant Council
Alberta Pacific Forest Industries Inc.
Alberta Research Council
Alberta Special Areas Board
Alberta Sport, Recreation, Parks and Wildlife Foundation
Alberta Sustainable Resource Development – Bearspaw Resource Information Unit
Alberta Sustainable Resource Development – Fish and Wildlife Division
Alberta Sustainable Resource Development – Forestry Division
Alberta Sustainable Resource Development – Lethbridge Resource Information Unit
Alberta Sustainable Resource Development – Lands Division
Alberta Sustainable Resource Development- Public Information, Education, and Outreach Programs
Alberta Tourism, Parks, and Recreation
Alberta Upstream Petroleum Research Fund
Alberta Utilities Commission
Alberta Wilderness Association
AltaLink, Ltd.
Anatum Ecological Consulting Ltd.
Aseniwuche Winewak Nation
Athabasca Bioregional Society
Athabasca Chipewyan First Nation
Beaverhill Bird Observatory
Blood Tribe
Bonavista Energy Trust Ltd.
Boreal Caribou Committee
British Columbia Ministry of Environment
Calgary Zoological Society
Canadian Association of Petroleum Producers
Canadian Forest Products Ltd.
Canadian Forest Service
Canadian Forces Base Suffield
Canadian Forces Base Wainwright
Canadian Natural Resources Ltd.
Canadian Wildlife Service
CEL Considered Consultants Ltd
City of Medicine Hat
ConocoPhillips Canada Resources Corporation
County of Grande Prairie
D&T Wood Lands Consulting Ltd
Devon Resources Canada Inc.
Devonian Botanic Garden
Ducks Unlimited Canada
Eastern Irrigation District
Elk Island National Park
EnCana Corporation
Environment Canada – Habitat Stewardship Program
Environment Canada – Interdepartmental Recovery Fund
Environment Canada - Science Horizons Internship Program
Fisheries and Oceans Canada
Foothills Research Institute
FortisAlberta Inc.
Friends of Saskatoon Island Provincial Park
Geological Survey of Canada
Government of Alberta Innovation Program
Government of Canada – Endangered Species Recovery Fund
Government of Canada – National Defence and the Canadian Forces
Grasslands Naturalists
Heritage Association of Cypress Hills
Hinton Wood Products Ltd.
Human Resources Development Canada - Student Career Placement Program
Iteration Energy Ltd.
Lakeland College
Medicine Hat College
Medicine Hat Fish and Game Club
Métis Association
Mikisew Cree First Nation
Mikisew Sport Fishing
Milk River Ranchers Association
Montana Fish, Wildlife, and Parks
Mountainaire Avian Rescue Society
Nature Alberta
Nature Conservancy of Canada
North American Waterfowl Management Plan
North Island Wildlife Recovery Centre
Operation Grassland Community
Parks Canada
Petro-Canada
Petroleum Technology Alliance Canada
Pinhorn Grazing Association
Prairie Conservation Forum
Prairie Farm Rehabilitation Association
Royal Alberta Museum
Saskatchewan Environment
Southern Alberta Environmental Group
Special Areas Board
Spray Lakes Sawmills
Strix Ecological Consulting Ltd.
Talisman Energy Inc.
TD Friends of the Environment Foundation
Teck Coal Limited, Cardinal River Operations
The Trumpeter Swan Society
TransAlta Corporation
Treaty 6 First Nations of Alberta
Treaty 8 First Nations of Alberta
Trout Unlimited Canada
Trumpeter Swan Society
University of Alberta
University of Calgary
University of Lethbridge
University of Montana
University of Saskatchewan
Vanderwell Contractors, Ltd.
West Fraser Timber Co. Ltd.
Western Stock Growers Association
Weyerhaueser Company Ltd.
Wildlife Preservation Canada
World Wildlife Fund
Yellowstone to Yukon Conservation Initiative

THE GENERAL STATUS EVALUATION

Program Supervisor: **Gordon Court**

purpose

To provide the current status of a wide range of wild species in Alberta, as a first step in a continuing process of evaluating and reporting on the biological status of provincial wild species.

TARGET SPECIES:
All birds, mammals, fish, amphibians, reptiles, vascular plants, butterflies, gastropods, odonates, bivalves, tiger lilies, mosses, and lichens.

Background

In 1996, Alberta made a commitment to the national *Accord for the Protection of Species at Risk*. As part of this commitment, all Canadian provinces and territories are required to develop a wild species status report every five years. This led to the development of the Fish and Wildlife Division's *General Status of Alberta Wild Species* report.

Alberta produced the first version of a wild species status report in 1991. A subsequent report was issued in 2000, which contained status information for 812 species. The most recent version, The *General Status of Alberta Wild Species 2005*, has been delivered online and contains status assessments for 2811 species. Wild species in Alberta ranked May be at Risk receive detailed status evaluations (see page 10).

Objectives

Alberta's general status process is designed to achieve four objectives:

- To provide information on, and raise awareness of, the current status of a wide range of wild species in Alberta;
- To stimulate broad public input to more clearly define the status of individual species;
- To produce a list of candidate species for more detailed status evaluations; and
- To provide a reference for provincial government agencies in the development of wild species conservation and management programs.

Future Direction

The General Status of Alberta Wild Species 2010 report will be completed in the fall of 2010 and will be produced through a collaborative effort between the Fish and Wildlife Division of Alberta Sustainable Resource Development, the Alberta Conservation Information Management System, the academic research community, and many knowledgeable individuals (taxonomic experts, local and regional naturalists). As in past years, assessments will be based on the best available information on population sizes, distribution, trends, and threats. These assessments are repeated every five years to provide trend information on species status over time. Such knowledge serves as an early detection system for the Government of Alberta, to allow informed decisions to protect and conserve those species that are in decline and in need of attention.

Each five year report aims to incorporate new data for species previously assessed, and increase the number and variety of species assessed. Until 2000 the general status reports were printed in a hardcopy report format but in 2005, a searchable web interface was introduced. The 2010 report will also be online.

The General Status of Alberta Wild Species 2010 will include several taxonomic groups never before assessed, including tiger beetles, mosses, and lichens.

COOPERATING AGENCIES

Alberta Conservation Association; Alberta Natural History Information Centre; University of Alberta; and the University of Calgary.

For more information contact:

Gordon Court (*see page 7*)

The General Status of Alberta Wild Species 2005 Online Report: www.albertawildspecies.ca

DETAILED STATUS REPORTS

Project Supervisors: **Sue Peters** (ACA), **Robin Gutsell**, and **Gavin Berg**

TARGET SPECIES:
Various

PROVINCIAL GENERAL STATUS:
At Risk/May Be at Risk

purpose

To initiate and guide the completion of new detailed status reports, and to post these recently published reports on the departmental website.

Background

The Alberta Wildlife Status Report series builds on the general status exercise and provides comprehensive summaries of biological status of selected wildlife species in Alberta. Wild species in Alberta that are ranked May be at Risk through the general status exercise (refer to page 9) receive detailed status evaluations. This process begins with detailed status reports, which profile all current, relevant and available information for a species in a single document. They provide important information to the Endangered Species Conservation Committee (ESCC) and its Scientific Subcommittee to help those committees recommend a status and conservation actions for a species. They are also an important tool for Fish and Wildlife Division staff when implementing conservation initiatives.

Methods

Qualified individuals were contracted to prepare detailed status reports. Each report was subjected to a review by several species experts from outside the Fish and Wildlife Division.

Results

Three new reports on Verna's flower moth (*Schinia verna*), western small-footed bat (*Myotis ciliolabrum*), and Athabasca rainbow trout (*Oncorhynchus mykiss*) and five updated reports on northern myotis (*Myotis septentrionalis*), Great Plains toad (*Bufo cognatus*), slender mouse-ear cress (*Halimolobos virgata*), bull trout (*Salvelinus confluentus*) and grizzly bear (*Ursus arctos horribilis*) were completed during the fiscal years of 2008-2009 and 2009-2010. A report is underway for woodland caribou (*Rangifer tarandus caribou*). There are currently 71 detailed status reports published in the series.

Recommendation and Future Direction

Additional reports will be commissioned in the 2010-2011 fiscal year.

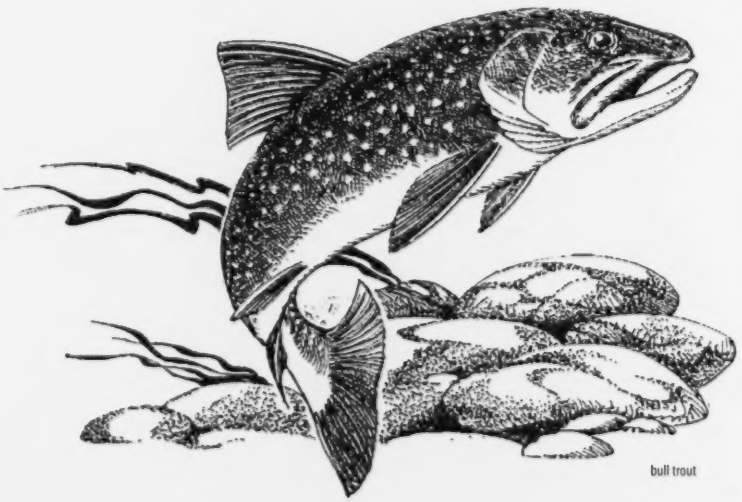
COOPERATING AGENCIES

Alberta Conservation Association.

For more information contact:

Robin Gutsell (*see page 7*) or
Sue Peters
(Sue.Peters@ab-conservation.com)

Detailed Status Reports online:
http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/DetailedStatus



bull trout

FORMAL DESIGNATION OF SPECIES

Project Supervisors: **Gordon Court**, **Robin Gutsell** and **Gavin Berg**

TARGET SPECIES:
Various

STATUS DESIGNATION BY MINISTER:
Endangered, *Threatened*, Species of Special Concern, Data Deficient, and Not at Risk

PROVINCIAL GENERAL STATUS:
At Risk, May be at Risk, Sensitive

purpose

To determine and provide a formal recognition of a species' status in Alberta, so that necessary protections are afforded and appropriate management actions are implemented.

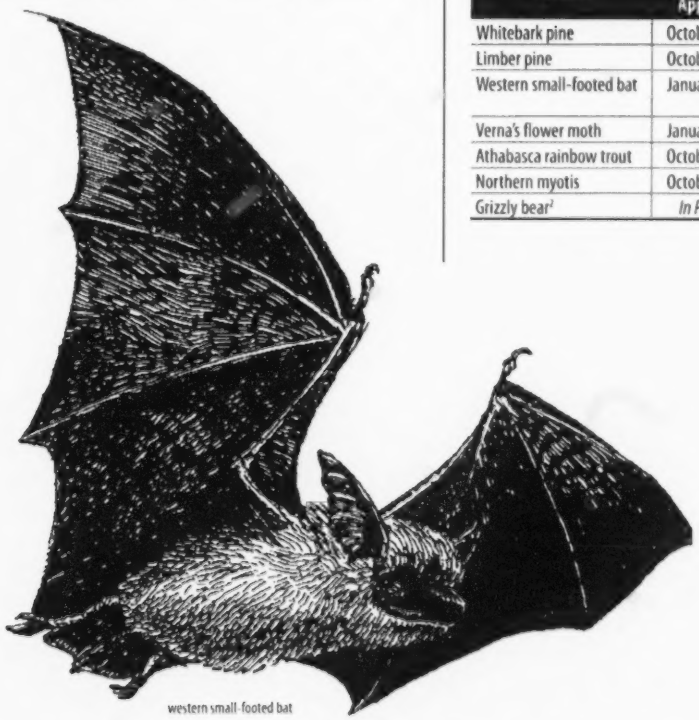
Methods

Once completed, detailed status reports are forwarded to the Scientific Subcommittee (SSC) of the Endangered Species Conservation Committee (ESCC). The SSC reviews the status report and, based on defined criteria, makes a recommendation on the species' biological status to the ESCC. The ESCC then comes to consensus on whether the SSC considered all available information and applied the criteria correctly when determining this status, and forwards the status recommendation along with its own recommendations on conservation actions to the Minister of Sustainable Resource Development (the minister) for a decision. Those deemed *Endangered* or *Threatened* are legally designated as such under the *Wildlife Act*, and are then subject to the recovery planning process (refer to page 37). Management Plans (see page 33) are produced for Species of Special Concern. Those designated Data Deficient become higher priority for funding for inventory.

Results

The following table summarizes new species' designations as recommended by the ESCC and approved by the minister between April 2008 and March 2010. *Endangered* and *Threatened* species are designated under the *Wildlife Act*; Species of Special Concern and Data Deficient species are not legal designations defined in the *Wildlife Act*.

Species	Date of Ministerial Approval	Status Recommendation
Whitebark pine	October 2008	Endangered
Limber pine	October 2008	Endangered
Western small-footed bat	January 2009	Species of Special Concern
Verna's flower moth	January 2009	Data Deficient
Athabasca rainbow trout	October 2009	Threatened
Northern myotis	October 2009	Data Deficient
Grizzly bear[2]	*In Process*	*In Process*



western small-footed bat

[2] Note: The Minister of SRD approved the grizzly bear's status as *Threatened* in June 2010.

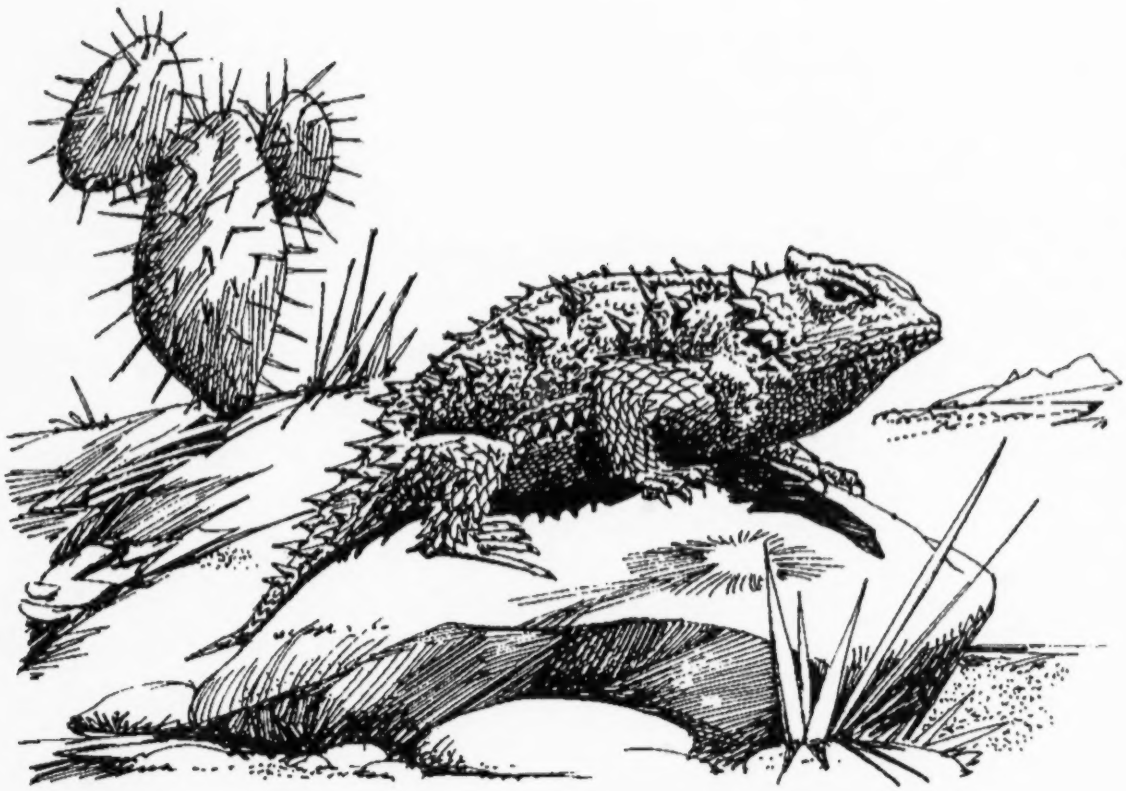
For more information contact:

Robin Gutsell *(see page 7)*

Species listed under the Wildlife Act and new species assessed by the ESCC: http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/SpeciesSummaries/documents/SpeciesAssessedbyESCC-Short%20List-Dec03-2009.pdf

prevention, conservation and stewardship projects

tiny cryptanthe



short-horned lizard

RESEARCHING AMPHIBIAN NUMBERS IN ALBERTA (RANA)

Project Supervisor: **Lisa Wilkinson**

TARGET SPECIES:
All amphibians

STATUS DESIGNATION BY MINISTER:
Threatened, Species of Special Concern, and Data Deficient

PROVINCIAL GENERAL STATUS:
At Risk, May Be at Risk, Sensitive, Secure, and Undetermined

purpose

To continue long-term monitoring of amphibian populations in the Athabasca and Bow Valleys, and to conduct a comprehensive analysis of all amphibian capture data from throughout Alberta, since the program's inception in 1997.

Background

The Researching Amphibian Numbers in Alberta (RANA) program was initiated to begin long-term monitoring and raise public awareness about the importance of amphibians and wetland habitat. Since 2008, limited resources have restricted monitoring to late summer pitfall trapping at Bow Valley, and pond surveys at Athabasca Valley. Although annual data analyses were conducted for each study area, a comprehensive provincial analysis was required, and this was conducted over the last two years.

Methods

Pitfall trapping: during the late summer, amphibians leaving the pond are captured in pots buried at ground level. Amphibians are released after data are collected. Comparing capture data over the years provides an indication of population trends.

Pond surveys: selected ponds are surveyed annually to identify presence of breeding amphibians. Presence/absence data collected over time will help reveal if any species appear to be declining.

Results

Data analysis is ongoing. Data from six study sites, collected for seven to 10 years (depending on the site), are included in the analysis. There is considerable variation at each site regarding capture rate per year, and annual variation makes it difficult to identify overall trends for species. Amphibian species captured were as follows: boreal chorus frog, boreal toad, Canadian toad (only one record), Columbia spotted frog, long-toed salamander, northern leopard frog, tiger salamander, and wood frog. Further analysis at the species level on a site by site basis is ongoing and may reveal information about potential changes in local population size.

Recommendations and Future Direction

Amphibian populations fluctuate and are affected by environmental conditions; therefore, long-term monitoring is required to detect population trends. Continued monitoring in Bow and Athabasca valleys is recommended, and conducting pond surveys at other RANA sites is recommended when resources are available.

COOPERATING AGENCIES

Alberta Conservation Association; Alberta Tourism, Parks, and Recreation; Hinton Wood Products Ltd.; University of Calgary; University of Alberta; Friends of Saskatoon Island Provincial Park; Heritage Association of Cypress Hills; Human Resources Development Canada (Student Career Placements); Yellowstone to Yukon Conservation Grant; and the Alberta Research Council.

For more information contact:

Lisa Wilkinson (*see page 7*).

Related Species at Risk reports: No. 74, 83, 95, 110

CANADIAN TOAD SURVEYS

Project Supervisors: **Gavin Berg** and **Lisa Wilkinson**

TARGET SPECIES:
Canadian toad (*Bufo hemiophrys*)

STATUS DESIGNATION BY MINISTER:
Data Deficient

PROVINCIAL GENERAL STATUS:
May Be at Risk

purpose To gain additional knowledge about the Canadian toad so that an accurate status can be assigned to it.

Background

The Canadian toad is designated as Data Deficient by the Minister of Sustainable Resource Development, and as May be at Risk through the general status exercise. Recent efforts to collate all Canadian toad observations suggest that the species has declined within some parts of its range, although some areas have not been adequately surveyed.

In an effort to increase our knowledge on this species, the Fish and Wildlife Division supported a project to conduct surveys in areas lacking toad records, specifically east-central Alberta. Speculation is that Canadian toads are disappearing from this part of their range, and may have already been extirpated from Elk Island National Park. Properly conducting these surveys warranted survey method testing, and collation of background information about toad-calling behaviour.

Methods

2008

During the summer of 2008, researchers attempted to determine the best method for identifying toad presence in a given wetland. Nighttime call surveys and visual encounter surveys were conducted near Opal, Alberta. The former involved driving road transects and stopping every 500 meters to listen for toad calls. When there was a known wetland in the area, crews would stop the car and approach on foot to avoid any major disturbance. Visual encounter surveys were performed during both day and night to determine whether or not finding adults along the shorelines was a viable survey technique. Additionally, egg strings could be spotted to confirm that a particular water body was in fact a breeding location.

2009

During the summer of 2009 we used a different approach. Armed with the information from 2008, we focused our surveys on specific wetlands suspected to have Canadian toad presence. Using technology new to the program, SongMeter™ acoustic recording devices were deployed to two wetlands near Wainwright, Alberta. These devices were set to record every night from mid-May to mid-June. Ground truthing transects were also set up to verify the presence of toads.

The biological information that can be gathered from these devices includes the following: how soon the toads start calling in relation to sunset; at what point they stop calling; how weather affects their calling; and the beginning and end dates of their calling season.

Results

Through our 2008 surveys we learned that the nighttime call survey is the best method to detect the presence of toads in a particular wetland. The visual encounter surveys were relatively ineffective for identifying presence during both the day and the night. Many shorelines were not conducive to surveys (e.g., floating shorelines, too much vegetation etc.) and if there is a small toad population at a wetland, encountering an adult may be a rare occurrence. Additionally, the shoreline surveys are time intensive and are much more invasive to wetland ecology than are roadside transects.

The 2009 results are currently being analyzed by students at the Lakeland College in Vermillion, Alberta.

Recommendations and Future Direction

As a next step, we will be analyzing the effectiveness of the SongMeter™ acoustic devices for collecting data, and the amount of time it takes to review the data once they have been collected. This information should facilitate surveys in the future, allowing Fish and Wildlife and other surveyors to be more effective with their time.

In 2010, we will focus our survey efforts to align with a Land Use Framework region that has shown potential population decline within the toad range. By collecting this additional information, we hope to obtain sufficient data to carry out a detailed status assessment for Canadian toads in the near future.

COOPERATING AGENCIES

Alberta Conservation Association; Alberta Tourism, Parks and Recreation; and Lakeland College.

For more information contact:

Gavin Berg or **Lisa Wilkinson**
(*see page 7*)

Related Species at Risk report: No. 126

WESTERN GREBES OF CENTRAL ALBERTA – SURVEYS AND IMPLICATIONS FOR MANAGEMENT

Project Supervisor: **Hugh Wollis**

TARGET SPECIES:
Western Grebe
(Aechmophorus occidentalis)

STATUS DESIGNATION BY MINISTER:
Species of Special Concern

PROVINCIAL GENERAL STATUS:
Sensitive

purpose

This study was designed to gather data on colony location and human-caused threats facing western grebe colonies across the province, as well as to provide direction for their conservation and management.

Background

This project was initiated in 2001 to monitor population trends and distribution of colonial nesting western grebes in Alberta. Prior to this project, no comprehensive gathering of data for Alberta had been done. The study began in the Stony Plain area and, over nine years, has expanded to include lakes throughout the province.

The Endangered Species Conservation Committee (ESCC) reviewed the status of the western grebe in June 2006, and the Minister of Sustainable Resource Development designated the western grebe as a Species of Special Concern shortly thereafter.

Western grebes have specific requirements for nesting sites. They need large *Scirpus sp.* (bulrush) beds along relatively undisturbed shoreline on moderately deep lakes that support healthy fish populations. Their sensitivity to disturbance may partly explain the loss of large colonies on some historical lakes, which have seen a substantial increase in recreational traffic in recent years. Many western grebe colonies are also important nesting areas to many other species of colonial nesting birds including white-faced ibis; eared grebes; yellow headed blackbirds; Franklin's gulls; black terns; Forester's and common terns; as well as many other non-colonial species such as marsh wrens, red-necked grebes, rails, and red-headed ducks.

Methods

Lakes chosen for surveys were based upon the known historical distribution of western grebes in Alberta, as well as the local knowledge of biologists in various regions of the province. Specific colonies were located through reconnaissance surveys in June each year. Immediately following nest abandonment in approximately mid-July, nests were counted using a transect method with multiple observers. During reconnaissance and nest surveys, observations were made on the nature of colony locations and sources of anthropogenic and other potential impacts.

Results

A literature review indicated that at least 30 lakes in Alberta had at one time supported large colonies of western grebes (defined here as more than 50 nests); by comparison, at the end of the 2009 field season we know of only nine large colonies. Further, we found only one lake during the course of the study that we had not found in the literature review, suggesting that new large colonies have not been established elsewhere.

As previously reported in the *Species at Risk Program and Projects Report 2004-2008*, there is serious concern over the unexplained loss or marked reduction in colonies in several lakes. Thunder Lake had a colony in the 1960s but few birds have returned in recent years. Utikuma Lake, which supported a colony of more than 1000 nests in 2000, was reduced to only a couple of dozen birds in 2006. These two situations may have developed as a result of winter kills of fish in the lake. The population at Lac Ste. Anne has dropped from more than 500 nests to fewer than 100 in the past few years. The colony at Lake Wabamun which had numbered more than 500 nests during the early years of this survey had been fluctuating downwards and in 2005, this decline was exacerbated when more than 300 grebes were killed by an oil spill following a train derailment. These incidents further exacerbate the tenuous nature of this bird in Alberta. The largest colonies are currently found in the northern limit of the range – Cold Lake, Lesser Slave Lake and Lac La Biche. These lakes are relatively remote and largely undeveloped to date.

COOPERATING AGENCIES

Canadian Wildlife Service.

For more information contact:

Hugh Wollis
(Hugh.Wollis@gov.ab.ca)

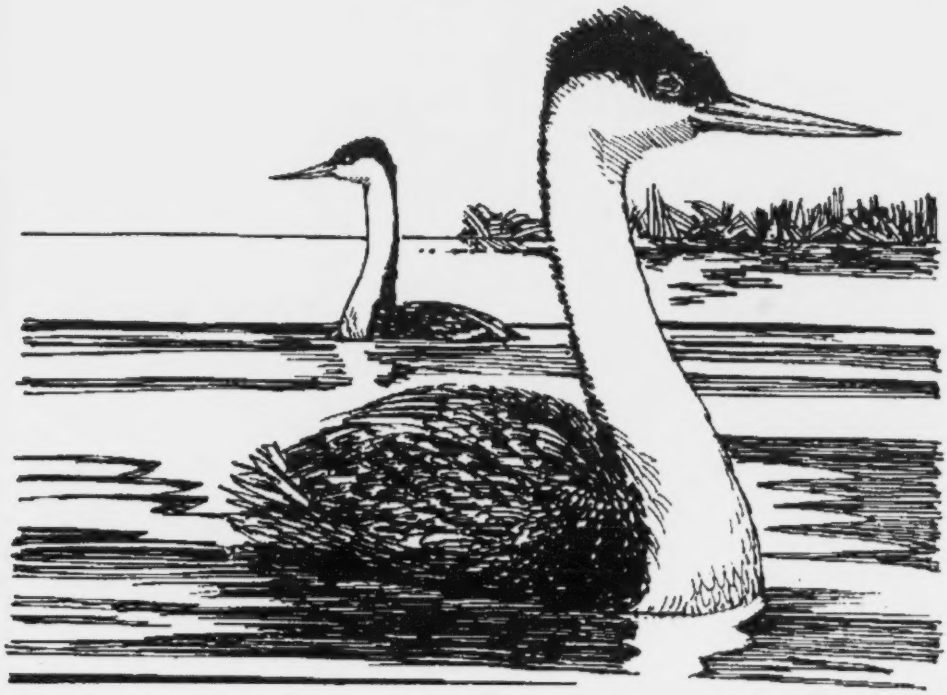
Related Species at Risk reports:
No. 41, 60, 94, 121

Western grebes face a series of threats from cottage development, heavy recreational activity, shoreline development, commercial and domestic net fishing as well as natural challenges such as botulism, winter kill of fish, predation, and the most serious, dramatic drops in water levels. Through doing these surveys, the utmost importance of large colonies has become clear. While there are many lakes that each contain fewer than ten birds, the bulk of the population resides in large or very large colonies, the latter numbering into the thousands of birds in some cases. Nesting in few, large colonies leaves the larger population vulnerable to large scale disturbances, as demonstrated by the Wabamun oil spill in 2005.

Recommendations and Future Direction

2009 was the last formal year of the study. Future management actions will focus on the protection of the large breeding colonies, and regular monitoring of nesting colonies in five year intervals.

The western grebe is scheduled to undergo a status re-evaluation by the ESCC in 2010.



western grebe

THE 2008 LOGGERHEAD SHRIKE SURVEY IN ALBERTA

Project Supervisor: **Dave Prescott**

TARGET SPECIES:
Loggerhead Shrike
(Lanius ludovicianus)

***WILDLIFE ACT* CATEGORY:**
Species of Special Concern

PROVINCIAL GENERAL STATUS:
Sensitive

purpose

To complete a range-wide roadside survey of loggerhead shrikes in Alberta, and to test the validity of a habitat suitability model previously developed for predicting the occurrence of shrikes in the province.

Background

Populations of the loggerhead shrike have declined in recent years, and populations in western Canada (*L. l. exubitorides*) are listed by the Committee on the Status of Endangered Wildlife (COSEWIC) in Canada as being *Threatened*. The species is considered to be of Special Concern in Alberta. A prairie-wide roadside survey has been conducted every five years since 1987 to monitor populations of the loggerhead shrike. In 2008 we repeated the inventory to determine provincial population size and trends. We also used data collected during the survey to determine whether predictions of an existing habitat suitability index (HSI) model could be validated in the field. These models are being increasingly used to make land-use decisions in this province, and their predictive abilities have rarely been tested.

Methods

Surveys were conducted along 31 road routes (total of 8095 km), representing eight map sheets at the 1:250 000 scale within the provincial range of the loggerhead shrike. Surveyors drove routes at speeds of 50-70 km/hr between mid-June and mid-July, and recorded the presence of shrikes using hand-held GPS units (UTM NAD 83). Additional information on characteristics of habitats where shrikes were observed was also collected. Shrike populations were expressed as the number of indicated pairs per 100 km in a map sheet, and a provincial population estimate was determined from pre-determined correction factors.

To validate the Habitat Suitability Index (HSI) model, locations of shrikes gathered during the 2003 and 2008 roadside surveys were collated. A Geographic Information System (GIS) was then used to randomly generate an equal number of sites (stratified by map sheet). Four HSI metrics were calculated (mean HSI value, and the proportion of the buffer with HSI values >0.8, >0.6, and >0.4) at two scales (200 m and 1000 m) around actual and random points. These four metrics were compared between random and actual observation points at each scale. The hypothesis was that a useful HSI model should yield significantly larger habitat values in areas where shrikes actually occur, relative to randomly-generated points on the same landscape.

Results

A total of 19 observers from Fish and Wildlife and the Alberta Conservation Association spent 174 hours surveying the 31 shrike routes between 19 June and 19 July 2008. Observers encountered 151 shrikes (97 single birds, 27 pairs) at 121 unique sites, for a total of 1.54 indicated pairs (IP)/100 km of route. This is 14.9% less than the 1.81 pairs/100 km reported in 2003, and 22.6% less than values calculated in 1998. Extrapolations of roadside observations to the landscape as a whole suggests a total provincial population of 7 721 loggerhead shrike pairs in Alberta during 2008. This is a 7.3% decline from the 8 327 pairs present in 2003. Mean HSI values did not differ between random and actual points at either the 200 m or 1000 m scales at a provincial level, nor were there overall differences in the mean proportion of HSI scores >0.4, >0.6 and >0.8 at either scale. However, mean HSI scores, as well as the proportion of scores in various categories were significantly higher where shrikes occurred in map sheet 83A. These differences occurred at both the 200 m (Table 3) and 1000 m (Table 4) scales. In general HSI models had very poor ability to predict the presence of shrikes in Alberta.

Recommendations and Future Direction

Ongoing declines in shrike populations are cause for concern. Continued survey effort to monitor population trends is encouraged, as is the initiation of research and stewardship effort to address causes and mitigation of declining populations. We also advocate the revision of exisiting habitat models, and the preparation of a provincial management plan for this Species of Special Concern.

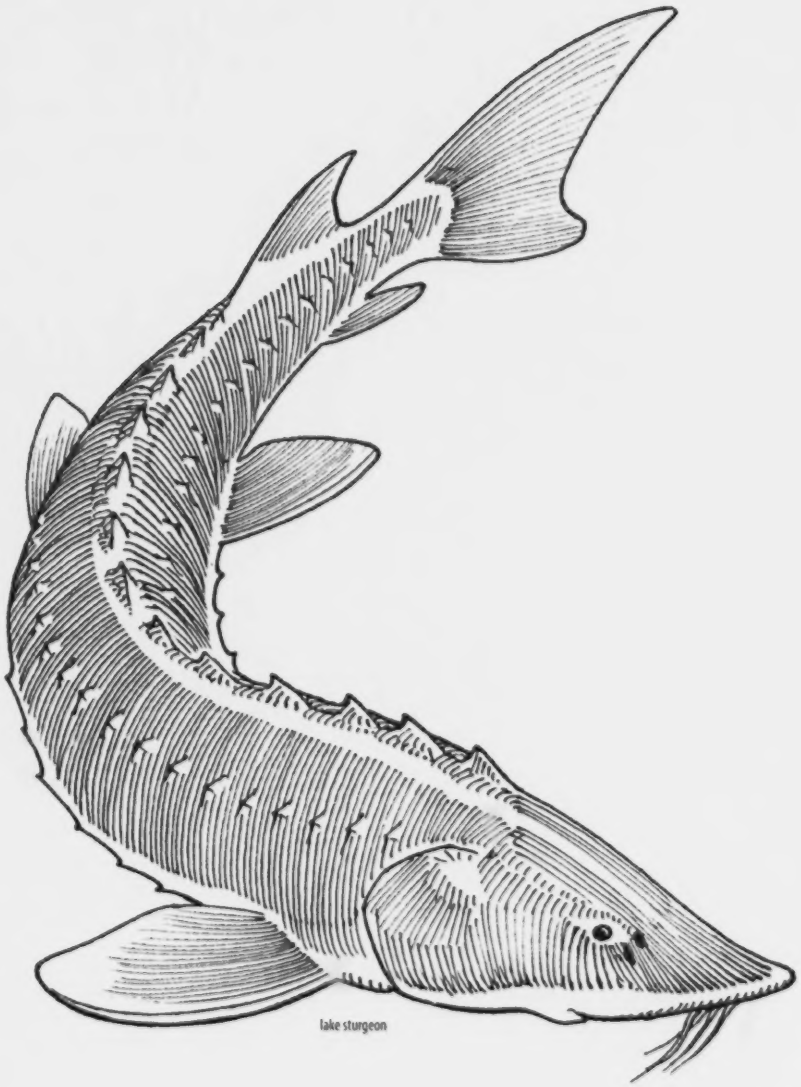
COOPERATING AGENCIES

Alberta Conservation Association; and TD Friends of the Environment.

For more information contact:

Dave Prescott (*see page 7*)

Related Species at Risk reports: No. 46, 67, 127



lake sturgeon

LAKE STURGEON TAGGING

Program Supervisor: **Terry Clayton**

purpose To tag lake sturgeon in the North Saskatchewan and South Saskatchewan River drainages within Alberta to determine movement patterns and derive population estimates and confidence intervals.

TARGET SPECIES:
Lake Sturgeon
(Acipenser fulvescens)

STATUS DESIGNATION BY MINISTER:
Threatened

PROVINCIAL GENERAL STATUS:
At Risk

Background

The lake sturgeon has been provincially designated as *Threatened* since 2003, and was formally listed under the *Wildlife Act* as such in December 2007. It has been designated nationally as *Endangered* by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and has been proposed for listing on Schedule 1 of SARA.

The major objective of this project was to tag lake sturgeon for future recapture. Tagging and recapture of fish is a commonly used method for determining movement patterns, habitat selection and determining abundance.

Methods

Individually-numbered Floy spaghetti tags and uniquely-coded passive integrated transponder (PIT) tags were place in lake sturgeon individuals in 2008 and 2009. Fish were captured by angling, using both Fish and Wildlife staff, other government staff, and volunteers. Tagging began in May and concluded in early November.

Results

Volunteers contributed approximately 95 and 120 man-days to tagging from May to October in 2008 and 2009, respectively. Additional hours were also contributed by staff during regular working hours. In 2008 there were approximately 250 lake sturgeon tagged using both Floy anchor tags and PIT tags. Recaptures of tagged fish were used to estimate population numbers. In 2009, an additional 175 lake sturgeon were tagged.

Recommendations and Future Direction

A proposal has been submitted to the federal government to set up hydro-acoustic stations and implant hydro-acoustic tags in lake sturgeon. Partial funding from Fish and Wildlife Division has been procured for purchase of tags and some acoustic stations. Tags are expected to be operational for four to five years.

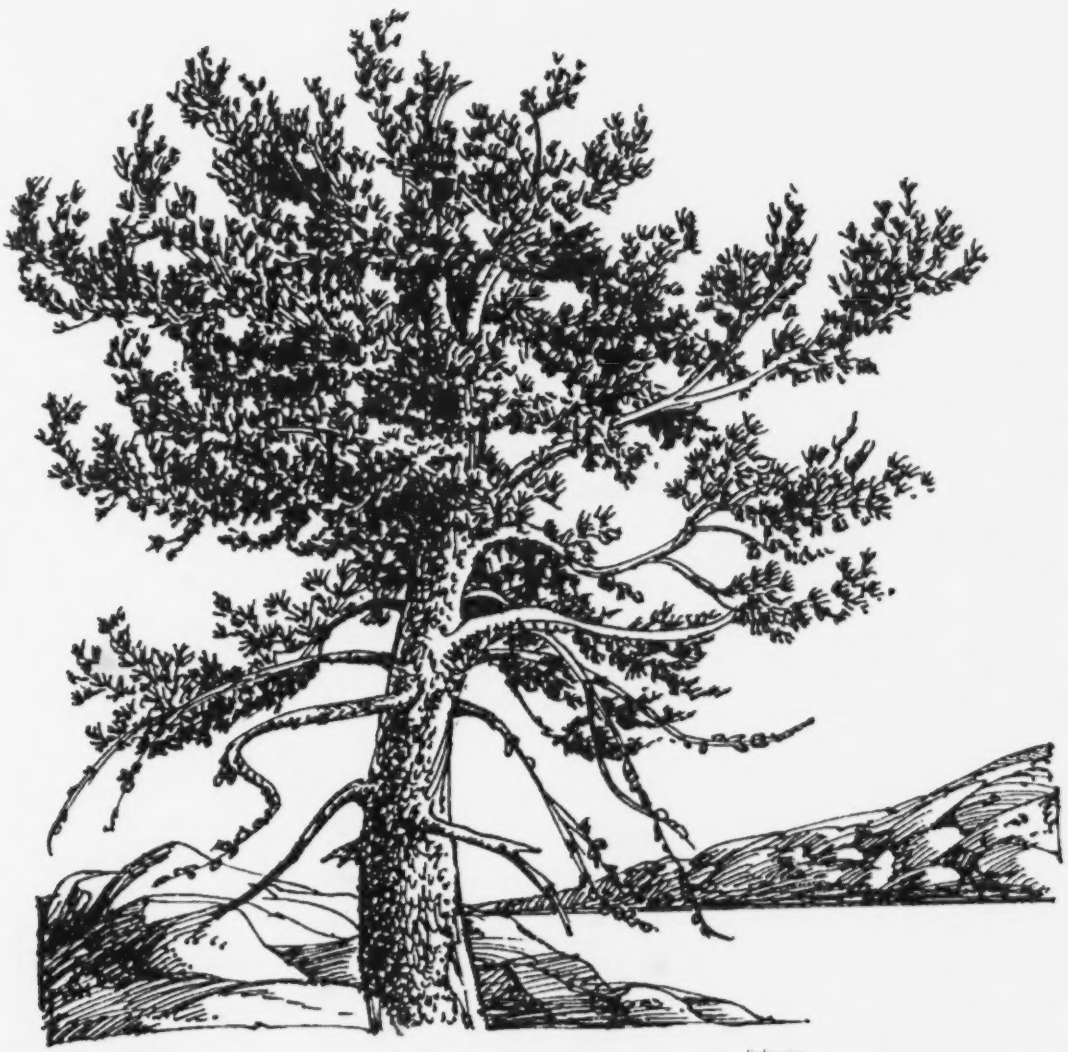
COOPERATING AGENCIES

Department of Fisheries and Oceans Canada; and Sustainable Resource Development – Lethbridge Resource Information Unit.

For more information contact:

Terry Clayton
(Terry.Clayton@gov.ab.ca)

Related Species at Risk report: No. 9



limber pine

ADOPT-A-PLANT ALBERTA PROGRAM

Project Supervisors: **Lisa Matthias** and **Robin Gutsell**

TARGET SPECIES:
Various

STATUS DESIGNATION BY MINISTER:
Endangered, *Threatened*, Species of Special Concern, and Data Deficient

PROVINCIAL GENERAL STATUS:
At Risk, May be at Risk, Sensitive, Undetermined

purpose To engage volunteer "citizen scientists" to search for, monitor, and carry out stewardship activities for rare and at-risk plant and lichen species in Alberta, to provide data for status assessment and conservation planning, and to aid in recovery efforts.

Background

The Adopt-a-Plant Alberta (APA) program was initiated in 2005 to address the need to gather more information on rare plants and lichens to assist with provincial status assessments. The program was designed to provide the training and variety of support services needed to facilitate the collection of standardized data on rare plants by citizen scientists, in recognition of the growing community of naturalists in Alberta. Adopt-a-Plant Alberta trains volunteer plant enthusiasts from across Alberta to identify and record observations of rare species.

The scope and capacity of the program have evolved since its inception. In addition to a focus on inventory and data collection for potentially at-risk species, the program integrates with ongoing provincial recovery efforts. Adopt-a-Plant Alberta contributes to recovery actions for plant species at risk by carrying out population monitoring and habitat management activities. The program has fostered a partnership with the Nature Conservancy of Canada (NCC) by carrying out surveys on NCC properties,which in turn helps NCC steward its land. Collaborations between Adopt-a-Plant and MULTISAR (see page 27) are also underway.

Methods

Each spring, APA conducts training workshops in two locations in Alberta. At these workshops, professional botanists and resource management professionals train volunteers on how to identify and survey for rare plants, how to use GPS units and topographical maps, and field safety. Volunteers "adopt" one or more rare species from a prioritized list. Volunteers search for new occurrences of their adopted species or monitor it at locations where it has been previously identified. Several group field events are planned each summer to allow volunteers to assist with specific conservation or habitat stewardship initiatives.

Results

2008 and 2009 were the 3rd and 4th field seasons respectively, for the APA program.

2008

In 2008, 43 APA volunteers collected data on 32 rare vascular plants, mosses, and lichens during individual or group surveys. Sixty-four point locations of rare plants were observed by volunteers and these data were collected by APA and provided to the Alberta Conservation Information Management System (ACIMS) to be used in conservation and planning. A part-time program coordinator helped the program steering committee with tasks like organizing the training workshops and field activities. Volunteer training workshops were hosted in May at the Devonian Botanic Garden and the University of Lethbridge.

The annual rare plant survey, Botany Alberta, was cohosted with the Nature Conservancy Canada (NCC) and took place in June at the Coyote Lake Nature Sanctuary west of Edmonton. Volunteers explored the site and recorded observations of several rare species. NCC presented APA with its "Volunteer Steward of the Year" award for its participation in and cohosting of the Botany Alberta event in 2007 at an NCC property in the Milk River Ridge.

In July, five volunteers, the program coordinator, and two Fish and Wildlife staff monitored the western spiderwort (*Tradescantia occidentalis*) population, surveyed invasive alien species at the site, and removed invasive baby's breath (*Gypsophila paniculata*) plants from spiderwort habitat using the most effective and safest techniques found in the literature. We hand-dug 18 baby's breath plants, removed as much of the root systems as possible (2-3 feet), and disposed of them at a local waste management facility. Locations where baby's breath plants were removed were geo-referenced to monitor any re-growth.

COOPERATING AGENCIES

Alberta Native Plant Council; Alberta Tourism, Parks and Recreation; University of Alberta; University of Calgary; Alberta Lottery Fund; Alberta Ecotrust; Petro-Canada; Alberta Conservation Association; Habitat Stewardship Program; Devonian Botanic Garden; Nature Conservancy of Canada; Nature Alberta; Medicine Hat College; Royal Alberta Museum; MULTISAR; and Parks Canada.

For more information contact:

Lisa Matthias
(Lisa.Matthias@gov.ab.ca) or
Robin Gutsell (*see page 7*)

Related Species at Risk report: No. 128

Adopt a Plant website: www.ab.adoptaplant.ca

A survey for tiny cryptanthe (*Cryptantha minima*) and small-flowered sand verbena (*Tripterocalyx micrantha*) was held in July on Drowning Ford Grazing Reserve outside of Medicine Hat. Western blue flag populations were also surveyed.

2009

In 2009, there were 45 registered volunteers, including 26 returning volunteers. An additional 22 people volunteered at group field events. One training workshop was held at the Devonian Botanic Garden and the other held at Medicine Hat College.

The first field event was a survey for hare-footed locoweed (*Oxytropis lagopus*), along the Milk River Ridge. Botany Alberta was again held as a collaborative event between the Alberta Native Plant Council, Adopt-a-Plant, and NCC. It took place in June at the Waterton Front property of NCC.

Annual stewardship efforts for western spiderwort were carried out by APA volunteers. Six volunteers plus several Fish and Wildlife staff focused on removal of baby's breath plants. Volunteers hand-dug and removed 58 baby's breath plants from spiderwort habitat at the front line of the invasion. We verified that baby's breath did not re-grow from locations where it was removed in 2008. Volunteers confirmed the local source of the baby's breath west of the site, and gathered additional information on flowering phenology and invasive plants at the site. A botanist and graphic designer were contracted to create an information pamphlet about baby's breath in Alberta. 500 copies were printed and distributed.

Volunteers helped MULTISAR survey western blue flag sites again in 2009. Volunteers also helped with weed removal at the Ranchlands Subdivision in Medicine Hat, in tiny cryptanthe habitat. In late August, APA held its first "northern" field event around Maqua and Mariana lakes north of Fort McMurray, where volunteers searched for rare lichens and plants. Further, in September volunteers carried out a survey of fruit production and larvae emergence for the soapweed and yucca moth populations at the Pinhorn Grazing Reserve. Data from all field events and individual volunteer surveys were collected by the program and submitted to APA and ANHIC.

Recommendations and Future Direction

Adopt-a-Plant will continue to build on partnerships with NCC, MULTISAR, and provincial recovery teams. Volunteer participation in key conservation and habitat stewardship activities for species at risk, particularly western spiderwort, soapweed, western blue flag, will continue. The program will expand its data collection efforts by hiring a professional botanist to carry out research, focusing on mapping and surveying for high priority rare and at-risk plants.

HABITAT SUITABILITY INDEX MODELS TO PREDICT LANDSCAPE DISTRIBUTION AND PRIORITY SEARCH AREAS FOR TINY CRYPTANTHE AND SMALL-FLOWERED SAND VERBENA IN ALBERTA

Project Supervisors: **Joel Nicholson** and **Brandy Downey**

purpose The goal of this research was to develop predictive models of the distribution and relative quality of habitat for tiny cryptanthe and small-flowered sand verbena in southeast Alberta.

TARGET SPECIES:
Tiny Cryptanthe *(Cryptantha minima)* and Small-flowered Sand Verbena *(Tripterocalyx micranthus)*

STATUS DESIGNATION BY MINISTER:
Endangered and *Threatened*

PROVINCIAL GENERAL STATUS:
At Risk

Background

Tiny cryptanthe is a small annual plant that ranges in size from 2 to 20 cm. It flowers from late May to early July. It occurs in the dry mixed grasslands of southeastern Alberta, generally in areas with sandy soils. Similarly, small-flowered sand verbena is also an annual plant that occurs on dry sandy soils that are adjacent to active erosion, in particular on sand dunes and hills. Both of these species have been listed in Alberta, with sand verbena receiving a designation as *Threatened* and tiny cryptanthe receiving designation as *Endangered*.

Activities and processes that may threaten these species include conversion of native prairie, construction of permanent roads, improper use of herbicides, invasive plant species, rural and urban development, and development of energy infrastructure including wells, pipelines, power lines, and wind turbines. Recovery planning for these species is underway, with a recovery team formed in 2008. After considering various options for management of habitat, members of the recovery team suggested producing a landscape level habitat model that would inform land use decisions and habitat designations as a key part of the recovery plan.

Methods

Habitat suitability variables were determined by reviewing applicable Alberta Species at Risk Program reports and occurrence data descriptions. Both species can be considered landscape specialists that prefer particular soil types and conditions. The Grassland Vegetation Inventory (GVI) is a soil-based site classification and was used as the primary database to describe potential habitat. The GVI consists of ecological range sites based on soils information for native prairie areas and using surface characteristics for non-native areas. The landscape is mapped using polygons based on high resolution (0.5 m) photo interpretation. Individual polygons will contain dominant and/or co-dominant site types, and may also contain significant and minor site types.

Tiny cryptanthe and small-flowered sand verbena occupy niches that comprise sub-xeric to xeric sites dominated by sand-based soils. The GVI includes three site types that partially match this description including sandy, sand, and choppy sandhills. Polygons containing these site types were qualitatively examined relative to occurrence records for each species to determine if the site types tended to contain occurrences of these species more often than expected (compared to other site types) and to ascertain whether one type was more representative than another. We selected polygons fitting these criteria from the GVI and weighted the polygons based on dominance of soil types for each species separately. These weighted polygons were subsequently imported to a raster database for further analysis.

Where it appeared a species may occur outside of GVI polygons in smaller patches than would be recognized by the GVI polygon mapping process, we developed a spatial correlative layer describing soil distribution. The newly created layer was then used to predict the species' occurrence based on soil types both inside and outside of sand-based soils where appropriate.

Results

A strong correlation exists between both tiny cryptanthe and small-flowered sand verbena and the sand-based soils and erosion-based features. This provides an opportunity to model habitat relationships at a landscape scale. Fundamental to modeling this relationship is accurate identification of soils and/or site types such as those provided by the GVI. The recent completion of inventory of large areas of the southern prairies has provided a means to model these types of relationships at a much finer resolution and greater accuracy than was possible with previous products (e.g., Agricultural Region of Alberta Soil Inventory Database [AGRASID]). Although the site type classification can be challenging to work with for particular applications and required some creative problem solving to model the above relationships, the models appear to have been successful and should provide a basis for both management and research activities related to both species.

COOPERATING AGENCIES

Environment Canada.

For more information contact:

Joel Nicholson *(see page 7)*

Related Species at Risk reports:
In preparation

Recommendations and Future Direction

Further refinements to these models are anticipated and suggested. In particular we would suggest the following:

1. The model extent is increased to cover the full species occurrence once the GVI is mapped into Special Areas;
2. An index of brightness should be incorporated into the model to improve model discrimination within polygons – this is particularly important for small-flowered sand verbena;
3. As more occurrence data are obtained, models should be periodically tested to refine relationships and subsequently update the model outcomes;
4. Once sufficient occurrences have been recorded and search effort has been expended, more robust methods should be considered (e.g., resource selection and environmental niche factor association models) for production of additional models.

small-flowered sand verbena

MULTISAR

Project Supervisor: **Brandy Downey**

purpose To conserve habitat for species at risk in the Grassland Natural Region and improve awareness of them on the landscape.

STATUS DESIGNATION BY MINISTER:
Endangered, *Threatened* and Species of Special Concern

PROVINCIAL GENERAL STATUS:
At Risk, May be at Risk, Sensitive, Undetermined, and Secure

Background

MULTISAR (whose name is derived from "multiple species at risk") is a cooperative initiative that provides interdepartmental and interagency cooperation toward conservation and recovery of multiple species at risk across Alberta's prairie landscape.

Initial years of the program (2002-2004) concentrated on the development of MULTISAR processes through baseline wildlife inventories, Habitat Suitability Index (HSI) modeling, prioritization of the landscape for conservation activities using a Multi-species Conservation Values map, and developing a list of management recommendations that are known or believed to improve habitat for species at risk. After 2004 the focus of the project progressed toward development and implementation of detailed Habitat Conservation Strategies in the highest priority areas for prairie species at risk. In 2007 that focus evolved again to include rapid habitat assessments for development of more numerous Species at Risk Conservation Plans and increased use of information outreach tools through an extension program. The MULTISAR process is now available throughout Alberta's entire Grassland Natural Region. MULTISAR does not replace single species recovery projects, but provides an effective complementary approach where landscape scale or socio-economic conditions limit efficiency of more focused efforts toward single species.

MULTISAR is guided by a business plan that outlines the project's vision, mission, goals and objectives.

Vision: Multiple species of wildlife, including species at risk, are effectively conserved at the landscape level, through a process that integrates range management and industrial land management with fish and wildlife management principles, and does so in a manner that may contribute to the sustainability of the rural economy.

Mission: To develop and implement the MULTISAR process to direct conservation of multiple species at risk, and associated fish and wildlife, within the Grassland Natural Region of Alberta.

Goal: To assist landowners and lessees to manage their land to benefit provincial and federal species at risk, while maintaining an economically viable operation.

Objectives:

- To provide recovery and maintenance for numerous species at risk through a multi-species, landscape-based approach.
- To engage landholders (owners and lessees) in the development of habitat conservation strategies within Alberta's highest priority areas for species at risk.
- To develop and implement Species at Risk Conservation Plans, for broader use throughout the Grassland Natural Region.
- To inform large numbers of Albertans about positive benefits of species at risk, and to encourage them to undertake stewardship to sustain species at risk.
- To facilitate industrial development in a manner that provides conservation for species at risk and native prairie ecosystems.

Methods

The recommendations in recovery plans for prairie-based *Endangered* and *Threatened* species were reviewed and incorporated into MULTISAR's management recommendations for use in the preparation of Habitat Conservation Strategies and Species at Risk Conservation (SARC) Plans. Habitat Conservation Strategies are completed in areas of highest value for multiple species at risk. Plans include a complete wildlife inventory, range inventory and health assessment and results are finalized in a strategy designed by the landholder, with assistance from wildlife and range professionals. SARC Plans include an office review of Fish and Wildlife Management

COOPERATING AGENCIES

Alberta Conservation Association; Sustainable Resource Development-Lands Division; and the Prairie Conservation Forum.

For more information contact:

Brandy Downey (*see page 7*)

Related Species at Risk reports: No. 72, 86, 87, 98, 108, 114, 117, 122

MULTISAR website: www.multisar.ca

Information System (FWMIS) data, species' ranges, habitat suitability, and air photo analysis. Following that, a landowner meeting is held and a rapid assessment of the land is completed, leading to provision of a report with management recommendations being provided to the cooperating landowner.

MULTISAR has increased the focus on education and awareness in recent years. This has led to partnerships with Alberta Conservation Association and Nature Conservancy of Canada to develop the *At Home on the Range* landowner guide. This guide is an important tool for encouragement of species at risk stewardship on private and leased land, and is a key part of the MULTISAR extension program. MULTISAR is also active throughout Alberta's prairie region in delivery of presentations on stewardship for species at risk and an interactive education module for grade seven's science curriculum "Interactions and Ecosystems". Further, program information is now easily accessible on the MULTISAR website.

Results

Habitat Conservation Strategies have been completed or are nearing completion on about 240 000 acres of Alberta's highest priority lands for multiple species at risk in the Milk River, Pakowki, and St. Mary's basins. MULTISAR engages the landowner/lessee as a full partner in the development of these strategies, along with range, fish, and wildlife specialists.

Numerous SARC Plans were completed by the end of 2009-2010 covering 120 000 acres of land throughout prairie Alberta. Approximately 10 000 copies of the *At Home on the Range* guide have been distributed to landholders, landholder groups, watershed and stewardship groups, counties, Fish and Wildlife offices, Public Lands offices and Land Management offices. Further, the above-mentioned education program was given to 33 schools throughout southern and central Alberta.

Other key developments of the MULTISAR program include:

- Addition of a new management partner - the Prairie Conservation Forum in 2009;
- Updating of six of the 17 HSI models to the new Grassland Vegetation Inventory specifications has been completed;
- A Management Advisory Committee was initiated in 2006 and meets two or three times a year to provide guidance to the MULTISAR project partners;
- The MULTISAR website has been developed and revised to provide increased access for the general public;
- Three issues of the *Grassland Gazette* were produced and distributed to cooperating landowners and other stakeholders and interested individuals;
- Three of 16 new fact sheets were developed about species at risk and management activities that are beneficial to them;
- The provincial inventory for western blue flag was completed in 2009;
- We completed the first step in a socioeconomic evaluation of prairie species at risk and their benefits to society; and
- We developed a new five-year Business Plan to direct MULTISAR's activities on the landscape.

Recommendations and Future Direction

Activities will continue on habitat assessment, information and outreach for conservation and recovery of species at risk. Increased emphasis will be put on research, monitoring and evaluation combined with adaptive management to ensure that MULTISAR activities meet their objectives. A new data management system and a centralized repository site will be developed to improve data access, data quality and security of digital information.

Opportunities will be explored for showcasing corporations that consider species at risk in their operations or provide support to stewardship groups or initiatives. Interactive school presentations will continue, with an emphasis on rural schools and Hutterite colonies. A demonstration tour and field school will be developed for landholders. Extension services will be enhanced through participation on various committees such as the Prairie Conservation Forum, Inside Education, and through participation in prairie field trips, teachers' institutes, and creation of distance learning broadcasts. MULTISAR will collaborate with Alberta Tourism, Parks and Recreation to create interpretive walks and displays for species at risk.

BARRED OWL AND OLD MIXEDWOOD FOREST SPECIES HABITAT MODELING

Project Supervisors: **Dave Stepnisky** and **Mike Russell**

TARGET SPECIES:
Barred Owl *(Strix varia)*

STATUS DESIGNATION BY MINISTER:
Species of Special Concern

PROVINCIAL GENERAL STATUS:
Sensitive

purpose

To determine the efficacy of existing models for predicting barred owl habitat use in northwest Alberta. The evaluation of these models will provide direction on which models should be used for landscape planning (e.g., Land Use Framework) for barred owl and old forest species habitat management.

Background

The majority of old mixedwood forests in Alberta have been allocated for timber harvest. Projections and model simulations based on current practices and levels of development forecast declines in the extent of old mixedwood forest environments across the province. Although studies have been conducted to determine the habitat requirements and effects of industrial development on many old-growth forestdependant species, many of these studies do not provide useful information that can be readily incorporated into forest management planning. With the exception of what exists for woodland caribou, few, if any, analytical products have been developed that will facilitate planning for both habitat supply and demographic performance of forest-dependent species in Alberta. This is particularly true with respect to mixedwood habitats. Barred owls are an old mixedwood forest associate, an assemblage that is expected to experience declines resulting from habitat loss under current practices. Several habitat models exist for barred owls but none have been validated or measured for their predictive performance for demographic success, with metrics such as survival. With the development and application of the barred owl habitat model in the Smoky Area this project will address this information gap.

We are evaluating the performance and general applicability of three existing barred owl habitat models, and assessing the best model's application to all regions across northern and western Alberta. In addition to the analysis of model performance for predicting habitat use by barred owls, we are also evaluating the efficacy of the models for predicting demographic performance in relation to habitat and landscape condition. The ultimate objective of our research program is to evaluate the efficacy of the best barred owl model when applied as a focal species approach to manage for the habitat needs of other old mixedwood forest species. The completion of the barred owl model development and evaluation are necessary to achieve this goal.

Methods

Playback surveys were conducted to measure pair occupancy across the study area during the pre-laying period (March-April). Barred owls were captured from within occupied territories, banded and equipped with a VHF radio-transmitter. All owls were relocated (using a receiver) at least 20 times throughout the breeding season. At least 75% of relocations were conducted at night, when owls are the most active. These data will be used to to establish within-territory spatial use and to evaluate the existing habitat models. In addition, through use of these transmitters, we can monitor survival and spatial use throughout the non-breeding season, and locate nests during the breeding season. These metrics will allow us to develop and evaluate the models for their predictive performance for the demographic success within a territory. Bi-weekly or weekly relocations (with at least four successive days between relocations) will be conducted throughout the non-breeding season to evaluate overwinter survival and habitat use. Survival will be monitored for two full consecutive years for each cohort from both the 2009 and 2010 captures. If a mortality signal is detected, the transmitter will be located immediately to determine the cause of death.

Model parameters will be calculated using a combination of Alberta Vegetation Inventory, obtained from all companies within the study area, various base data layers provided by the Spatial Data Warehouse, and industrial data layers from Alberta Energy. All digital landscape layers are currently being evaluated for consistency and accuracy with satellite imagery collected during the summer of 2008. All relevant model parameters that are not captured within these existing datasets (e.g., recent industrial development) will be digitized at a minimum scale in ArcGIS of 1:5 000 if visible at a reference scale of 1:30 000.

COOPERATING AGENCIES

Weyerhaueser Company Ltd. (Grande Prairie); Alberta Cooperative Conservation Research Unit; Nature Alberta; Canadian Forest Products Ltd. (Grande Prairie); Alberta Pacific Forest Industries Inc.; North Island Wildlife Recovery Centre; Mountainaire Avian Rescue Society; and Strix Ecological Consulting, Ltd.

For more information contact:

Mike Russell
(Mike.Russell@gov.ab.ca)

Results

In total, 254 independent and randomly selected sites were surveyed in the spring of 2009. Of these, eight sites recorded a pair of birds and 11 sites an unpaired bird. In addition, 67 sites were selected in areas with high model scores in an attempt to increase the number of known territories. During these surveys 14 pairs were detected, and nine sites had an unpaired owl respond. In nine territories that were known to be occupied, barred owls were captured and equipped with a VHF radio transmitter between May and June 2009. Nine of these owls were relocated at least 20 times throughout the breeding season. Owls have been relocated seven times during the non-breeding season (September-March) and monitoring will continue until May 2011.

The implementation of the models to be validated will be completed once all of the GIS analysis is complete and the accuracy of the relevant data layers has been examined and reported. Currently all data layers have been compiled and we are validating their congruence with the 2008 imagery. Once this is complete, model validation can begin.

Recommendations and Future Direction

We will replicate the occupancy surveys in March and April 2010 to better evaluate the reliability of models across years. In addition, 11 adult owls will be radio-tagged and relocated throughout the breeding season to compare the relative performance of models. To calculate survival at least 12 continuous months of monitoring are required for each cohort. We will continue to monitor survivorship in the first cohort, the owls that were radio-tagged in May 2009, until May 2011. All owls that are captured and radio-tagged in spring 2010 will be monitored for survival on a bi-weekly schedule until spring 2013. Owl territories with a radio-marked owl will be intensively surveyed during the incubation period to locate nests. If the owls are breeding and the nest site is located we will monitor the nest site throughout the nesting period to measure nesting success.

barred owl

additional projects

This section includes small projects without designated project funds that are run by Species at Risk staff, as well as projects that are led by departments or partnering agencies outside of the Species at Risk Program, but to which the Fish and Wildlife Division contributes in-kind staff participation or minor supplementary funds.

Harlequin Duck Surveys

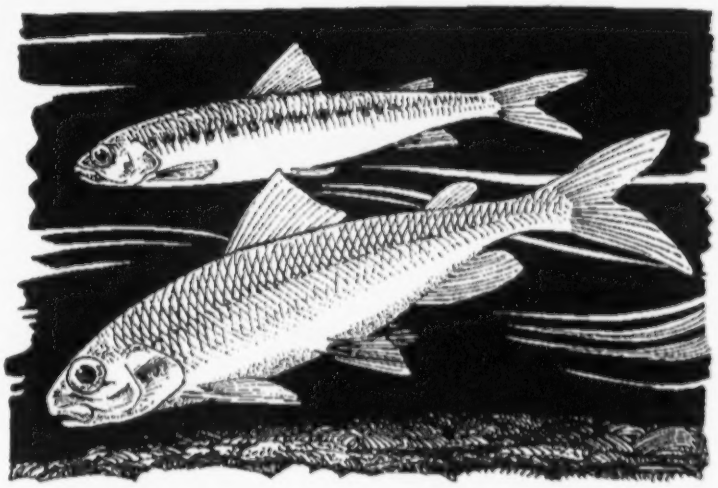
The harlequin duck is a Species of Special Concern for which regular monitoring is undertaken to track its status and improve understanding of ecological relationships regulating its distribution, abundance, and productivity. Spring pair surveys and summer brood surveys were conducted in seven watersheds in the Willmore Wilderness Park from 1998-2009. Watercourses within this park provide habitat for harlequin ducks that has minimal human disturbance, which is rare in other parts of the species' provincial distribution. The most recent surveys suggest a stable population but low productivity.

Additionally, annual trend surveys have been conducted in the headwater areas of Oldman River and Carbondale River by observers walking designated stream sections. These surveys indicate that number of harlequin ducks in the area continues to decline compared to surveys conducted in the late nineties and earlier in the first decade of this century.

Pygmy Whitefish Surveys

The pygmy whitefish (*Prosopium coulteri*) was designated a Data Deficient species in 2001; at that time only eight specimens from five locations had ever been collected. In 2008 and 2009, Parks Canada and Alberta Sustainable Resource Development conducted a joint electrofishing survey along the upper reaches of the Athabasca River drainage as far downstream as Whitecourt. The aim of this work was to shed light on whether the species is actually resident in Alberta river systems or is perhaps vagrant from one or more as yet unidentified deep, cold lakes.

Twenty-five pygmy whitefish were captured and identified from the confluence of the Snaring River downstream to the confluence of Solomon Creek. These data greatly increased the number of specimens in Alberta, as well as our knowledge about the age and growth of pygmy whitefish in the Upper Athabasca watershed, and our knowledge of this species' range. Future plans include additional electrofishing field work to verify occurrence in river reaches near Whitecourt, and to learn about habitat use and population density for a future status reassessment.



pygmy whitefish

bay-breasted warbler

management planning

SPECIES OF SPECIAL CONCERN CONSERVATION MANAGEMENT PLANNING

Management and monitoring is required for some species that are not *Endangered* or *Threatened*, but that have characteristics that may make them particularly sensitive to human activities or natural events. Such species can be designated as Species of Special Concern by the Minister, following a detailed status evaluation by the Scientific Subcommittee and recommendation by the Endangered Species Conservation Committee (ESCC).

Conservation management plans for Species of Special Concern must be developed within three years (unless otherwise specified) of Ministerial approval of the provincial status recommendation. Intended as resource tools for the Fish and Wildlife Division and for provincial and regional land management agencies, these plans are designed to guide species' management and influence land management decisions that enhance the conservation of target species and their habitats.

Conservation management plans are intended to be concise documents that focus on recommendations and actions. Plans contain a brief overview of background information including rationale for the species listing, threats to populations and habitat, and a summary of inventory efforts. Goals, objectives and recommended actions are then identified. As in recovery plans, actions can encompass inventory and monitoring needs, habitat protection and conservation, management activities, and other considerations such as public education initiatives.

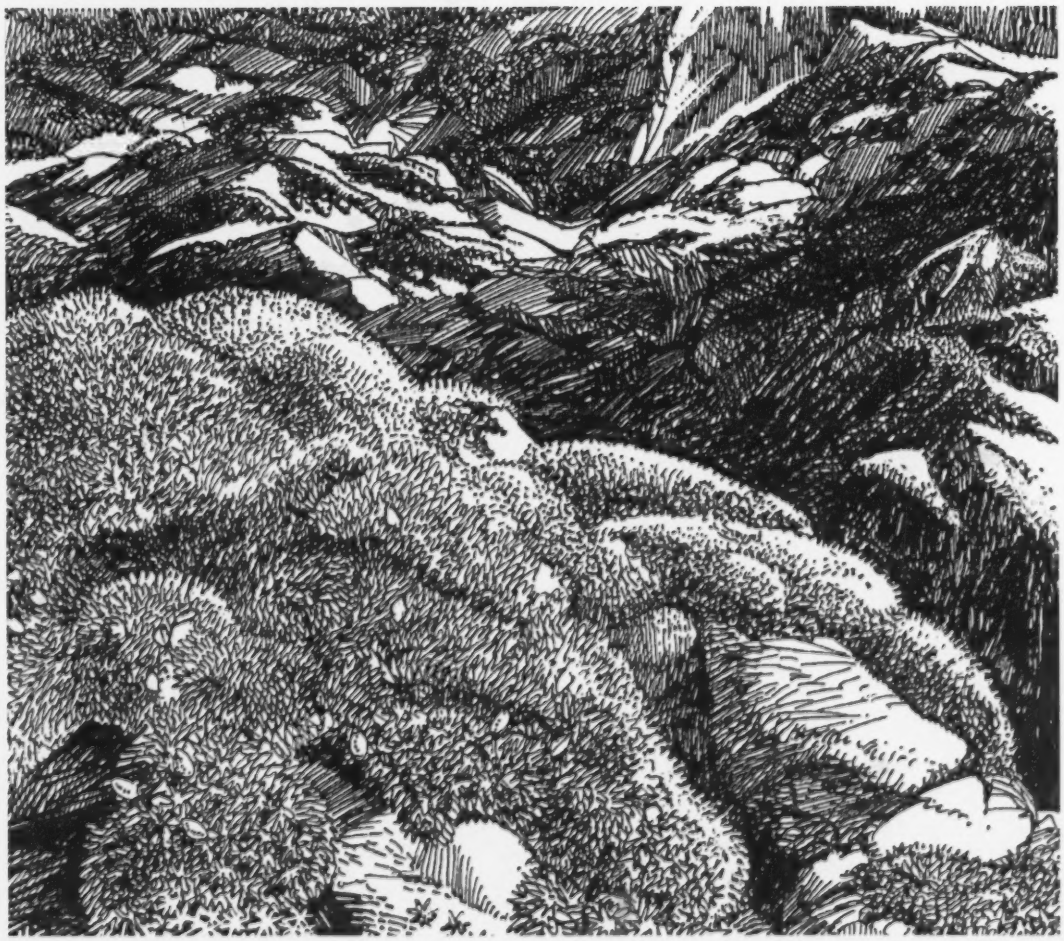
Conservation management plans may also identify current government policies, guidelines and practices that warrant improvement so as to minimize impacts on species' population or habitat. They may recommend improvement of these existing policies and guidelines, or encourage the development of new ones to ensure the long-term maintenance of a species and its habitat. Further, Species of Special Concern Management Plans themselves can be integrated into those existing policies where there is an opportunity.

Draft plans are prepared by a staff lead and may be circulated for technical and peer review to species' experts and other government departments. Plans may also be distributed to stakeholders for review. Final drafts of management plans are submitted to the Director of Wildlife Management (the Director) for review and approval. The Director may circulate the plans to other directors at his discretion. Upon approval by the Director, plans will be made available to partners, the public, and other relevant agencies, and will be posted on the departmental website. Finalized plans will also be presented to the ESCC.

Management plans are dynamic documents that may be amended as conditions require. They will be subject to a brief, annual review by Fish and Wildlife Division personnel and updated accordingly. An in-depth review will occur within five years of completion of an initial plan.

To date, draft conservation management plans have been developed for the following *Species of Special Concern* - Sprague's pipit, long-toed salamander, harlequin duck, long-billed curlew, Cape May warbler, black-throated green warbler and bay-breasted warbler – and for one Data Deficient species, the prairie rattlesnake. Additional plans in preparation include the barred owl, white-winged scoter, western small-footed bat, bull trout, and arctic grayling.

For more information on management planning, contact Lisa Wilkinson (see page 7).



porsild's bryum

recovery program

Through the ongoing general and detailed status assessment processes described earlier, a small number of native species have been identified as being at risk of extinction or extirpation in Alberta. These species are designated as *Endangered* or *Threatened* under the provincial *Wildlife Act*, and are the focus of recovery planning and implementation programs. Establishing recovery programs for at-risk species reflects Alberta's commitment to the *Accord for the Protection of Species at Risk*, the *National Framework for the Conservation of Species at Risk*, and requirements established under Alberta's *Wildlife Act* and the federal *Species at Risk Act* (SARA).

The Alberta recovery program has the following overarching goal:

To maintain or restore species identified as *Threatened* or *Endangered* to viable, naturally self-sustaining levels within Alberta.

All species designated as *Endangered* or *Threatened* must have a recovery plan prepared within one year or two years of listing under the *Wildlife Act*, respectively. At the direction of the Minister of Sustainable Resource Development (the Minister), the Director of Wildlife Management (the Director) may establish a provincial recovery team to prepare the species' recovery plan. Recovery teams are composed of species experts, interested or affected stakeholders, and groups with management responsibility for the species and its habitat. They may include representatives of conservation organizations, industry, landowners, resource users, aboriginal organizations, academic researchers, government agencies and other groups. The Fish and Wildlife Division is the coordinating agency and identifies a lead staff member to chair or co-chair the team, provides operational support for the team, and ensures ongoing integration with other national or jurisdictional recovery programs. The team reports to the Minister through the Director, who acts as the Minister's representative.

Recovery plans include background information that highlights the species' biology and population trends, as well as threats to the species and its habitat; a recovery section that identifies recovery or maintenance goals and measurable objectives; overall recovery strategies to address threats and guide recovery actions; and a detailed action plan. The action plan outlines specific actions necessary to achieve the recovery goals; associated timelines for initiation or completion of those actions; and in most cases, organizations that will be involved with implementation. Recovery plans for species that are also federally listed are developed to meet requirements under SARA.

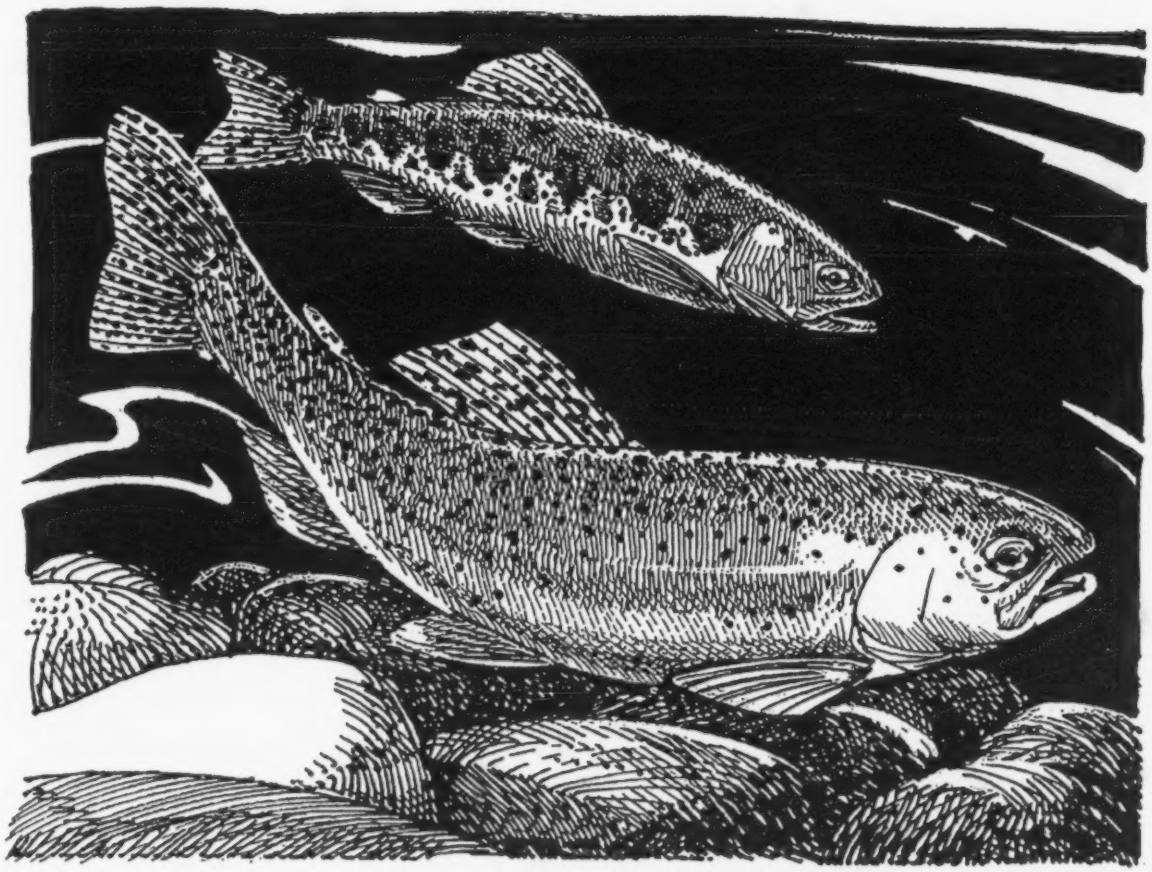
Once a draft recovery plan is completed it is submitted to the Director for departmental review; during this time the Director may consult other departments on the content of the draft recovery plan. Following this review, the Director forwards the draft plan to the Endangered Species Conservation Committee (ESCC) for their review; this latter review by the ESCC constitutes most or all of the public review process, as the multi-disciplinary committee represents a broad range of interests. Following ESCC acceptance of the plan, the ESCC Chair (an appointed Member of the Legislative Assembly) provides advice to the Minister regarding approval of the recovery plan, including any substantive comments they made. Meanwhile, the Director forwards the draft recovery plan to the Minister's office, along with the Fish and Wildlife Division's advice to the Minister on approval of the recovery plan. Departmental comments as well as recommendations from the ESCC on approval of the plan, will all be considered by the Minister as he or she makes a decision on recovery plan approval. Plans accepted and approved for implementation by the Minister are published as part of the Species at Risk Recovery Plan report series.

While the overall implementation of the recovery actions is coordinated by the Fish and Wildlife Division, agencies and organizations represented on the recovery team are often involved with the implementation of recovery actions. Further, depending on species-specific circumstances, it may be necessary to initiate recovery actions while the recovery planning process is still in progress.

The Fish and Wildlife Division and the recovery team provide ongoing coordination and assessment of recovery implementation. Recovery plans are "living" documents and the team may revise the action plan as conditions change or circumstances warrant. The team reports annually to the Director on recovery progress and on any changes made to the action plan. Recovery plans are assigned a lifespan (typically five years, or sometimes ten years for an updated plan), and are revised and updated by the team at the end of that period.

The next section highlights progress made toward development of recovery plans still in the planning stages for *Threatened* and *Endangered* species. It also includes recovery progress made toward species that only occur on federal land in Alberta, whose recovery programs are led by federal agencies.

The following section, Recovery Implementation, describes the progress made toward the implementation of recovery actions for each species that has an approved recovery plan.



athabasca rainbow trout

recovery planning

Lake Sturgeon

The lake sturgeon has been provincially designated as *Threatened* since 2003, and was formally listed as such under the *Wildlife Act* in December 2007. The Director of Wildlife Management, on behalf of the Minister, formed a provincial recovery team in fall 2008 and the team had held eight meetings by December 2009. A draft recovery plan has been produced and revised, and it is anticipated that the final draft recovery plan will be submitted to the Minister and to the ESCC in spring 2010.

Wood Bison

The wood bison (*Bison bison athabascae*) has been designated as *Endangered* under Alberta's *Wildlife Act* since 1987. The *Endangered* status applies within boundaries in northwest Alberta that are described in the *Wildlife Regulation*.

Alberta Sustainable Resource Development (SRD) has been involved in several aspects of management and planning for the recovery of wood bison. SRD has been a member of the national Wood Bison Recovery Team and spent the last two years helping draft the national Recovery Strategy, which will comply with the federal *Species at Risk Act*. The draft strategy is now being reviewed and edited by Environment Canada, with anticipated changes occurring over the next year. A published date for the national Recovery Strategy is unknown at this time.

SRD has also been a member of the Assistant Deputy Minister's steering committee on the management of wild bison in Alberta, which is headed by Alberta Agriculture and Rural Development. This committee provides a forum for several ministries to coordinate strategies to minimize the risk of transmission of bovine tuberculosis (TB) and brucellosis from infected bison in the Wood Buffalo National Park (WBNP) area to livestock and disease-free wild bison outside of the Park. This is an ongoing process.

To protect against disease transmission from the WBNP herd, Alberta has also implemented a wood bison harvest (Aboriginal and resident) to reduce the population size and distribution of bison in the Hay Zama area. Harvested bison are tested for Bovine TB and Brucellosis, and a harvestable surplus of bison are maintained for future use. The reduction of the population helps prevent the risk of disease transmission from other bison herds, and helps minimize human/bison conflicts such as vehicle collisions or property damage. The disease status of the bison is also being monitored.

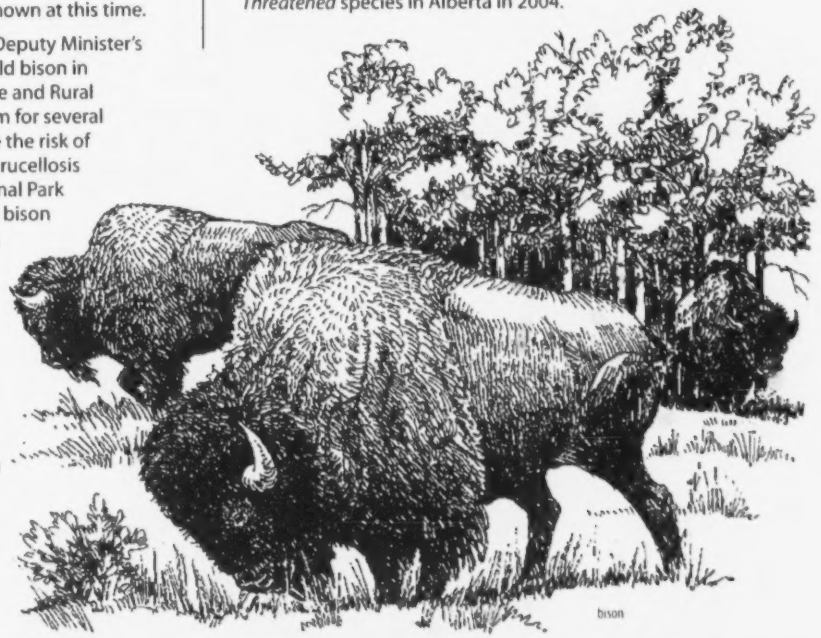
The bison disease management issue needs to be resolved prior to proceeding with formal provincial recovery planning. However, as indicated above, the ADM's Committee has been working toward resolving this issue.

Small-flowered Sand-verbena and Tiny Cryptanthe

The Small-flowered Sand Verbena and Tiny Cryptanthe Recovery Team was initiated in June 2008. The recovery plans for both species are almost completed and will be going to the Endangered Species Conservation Committee by late 2010. Recovery is focused on determining key sites for the species in the province, maintaining known populations and developing Best Management Practices for both industrial and agricultural users. The team has also been focused on assisting the federal recovery team in determining critical habitat under Canada's *Species at Risk Act*. The Alberta Species at Risk Program supported a habitat modeling project for this purpose (see page 25).

Stonecat and Rocky Mountain Sculpin

The Rocky Mountain sculpin (provisionally *Cottus spp*; formerly the St. Mary/eastslope sculpin) and stonecat (*Noturus flavus*), were approved for listing as *Threatened* species in Alberta in 2004.



bison

Since then, a number of field studies have been undertaken to determine the relationship between densities of the sculpin and habitat characteristics in the St. Mary River.

Although a broad-based multi-species recovery approach has been developed to set goals, objectives, strategies, and management actions needed to recover these two species as well as the western silvery minnow, separate recovery plans are being written for each species. Recovery planning for both the stonecat and the Rocky Mountain sculpin is well underway. Both recovery plans are anticipated to be ready for the ESCC meeting in mid 2010.

Greater Short-horned Lizard

Recovery planning for the greater short-horned lizard (*Phrynosoma hernandesi*) has been delayed as a result of the high volume of recovery planning required in south east Alberta. Currently a number of recovery plans are in preparation, and a number of other plans are undergoing implementation in the same geographic area. However, pending the development of a recovery plan for this species, various conservation measures have been put in place. These include protection of key habitat for short-horned lizards, and development and application of land use guidelines and mitigation for activities occurring in or around short-horned lizard habitat.

With the recent initiation of development of a national recovery plan for this species, the Alberta Species at Risk Program has the opportunity to work collaboratively with the national recovery team to develop an action plan that will be complementary to the upcoming national strategy. A technical workshop was held in Medicine Hat in January 2010 in cooperation with the Canadian Wildlife Service to scope out issues and technical information related to short-horned lizard conservation in Canada. This process will aid the Alberta program in development of a recovery plan through collaborative opportunities with research, inventory, and habitat modeling. It is also hoped an additional provincial inventory can be conducted in the near future to inform the recovery process regarding current distribution and abundance in Alberta.

whitebark pine

Porsild's Bryum

Porsild's bryum (*Bryum porsildii*) is a moss that has been recorded in only 12 locations in Alberta (it grows on shaded, wet, rocky areas in the Rocky Mountains), and was listed as an *Endangered* species in 2007. Some subpopulations of this species are vulnerable to human activity and /or dust from gravel roads.

A provincial recovery team was formed in 2009 and a draft recovery plan was submitted for review in the same year. It is expected to go to the ESCC in the fall of 2010. In advance of ministerial approval of this plan, recovery efforts will also begin in the summer of 2010. The first step of the recovery plan is to measure all known subpopulations; instigation of a monitoring program would logically follow. Actions to minimize threats will be implemented concurrently, and further survey work is recommended.

Westslope Cutthroat Trout

The westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) was approved for listing as a *Threatened* species in Alberta in 2007 and officially added to Schedule 6 of the *Wildlife Regulation* in fall 2009. A joint provincial-federal recovery team was formed in early 2009 with broad representation from government, industry, conservation groups and academic researchers. Recovery plan preparation is underway and the plan is anticipated to be ready for ESCC review by summer 2010. To date, the team has discussed issues such as species distribution, population size and trends, threats, genetics, and recovery goals. At the same time, data are being collected to support recovery planning, such as genetic data for analysis to determine the extent of hybridization between the westslope cutthroat trout and rainbow trout, as well as population subdivision among pure populations.

Whitebark Pine and Limber Pine

Whitebark (*Pinus albicaulis*) and limber (*Pinus flexilis*) pines were recommended to be designated as *Endangered* species in Alberta in 2008. and they were formally listed in 2009. The Alberta Whitebark and Limber Pine Recovery Team, a joint recovery team for both pine species, was formed in September 2009. It is being co-led by the Fish and Wildlife and Forestry divisions. The team expects to complete draft recovery plans for each species by the fall of 2010. External review will follow and the plan will be presented to the ESCC and forwarded to the Minister's office for approval in the winter of 2010-2011. As interim actions, surveys for species presence, monitoring for infection by white pine blister rust and infestation by mountain pine beetles (*Dendroctonus ponderosae*), and refinement of range mapping have been carried out by SRD's Forestry Division, Tourism, Parks and Recreation's Parks Division and Parks Canada since 2003. Also, several stands have been protected from mountain pine beetle outbreak as part of SRD's prevention program.

Athabasca Rainbow Trout

The status of the Athabasca rainbow trout (*Oncorhynchus mykiss*) was reviewed by the ESCC in June 2009, and the species was provincially designated as *Threatened* by the Minister of Sustainable Resource Development in fall 2009. The Alberta Athabasca Rainbow Trout Recovery Team formation is underway, with their first meeting expected in March 2010. The team will then initiate development of a provincial recovery plan for Athabasca rainbow trout.

Whooping Crane

The whooping crane (*Grus americana*) has been protected as an *Endangered* species under Alberta's *Wildlife Act* since 1987. As this species primarily occurs on federal land in Canada (Wood Buffalo National Park), recovery planning has been conducted by the federal government. However, Alberta Species at Risk staff provide input into the recovery program as necessary; for example, the draft of the recovery strategy was reviewed provincially prior to posting of the final version on the *Species at Risk Act* Public Registry in late 2007.

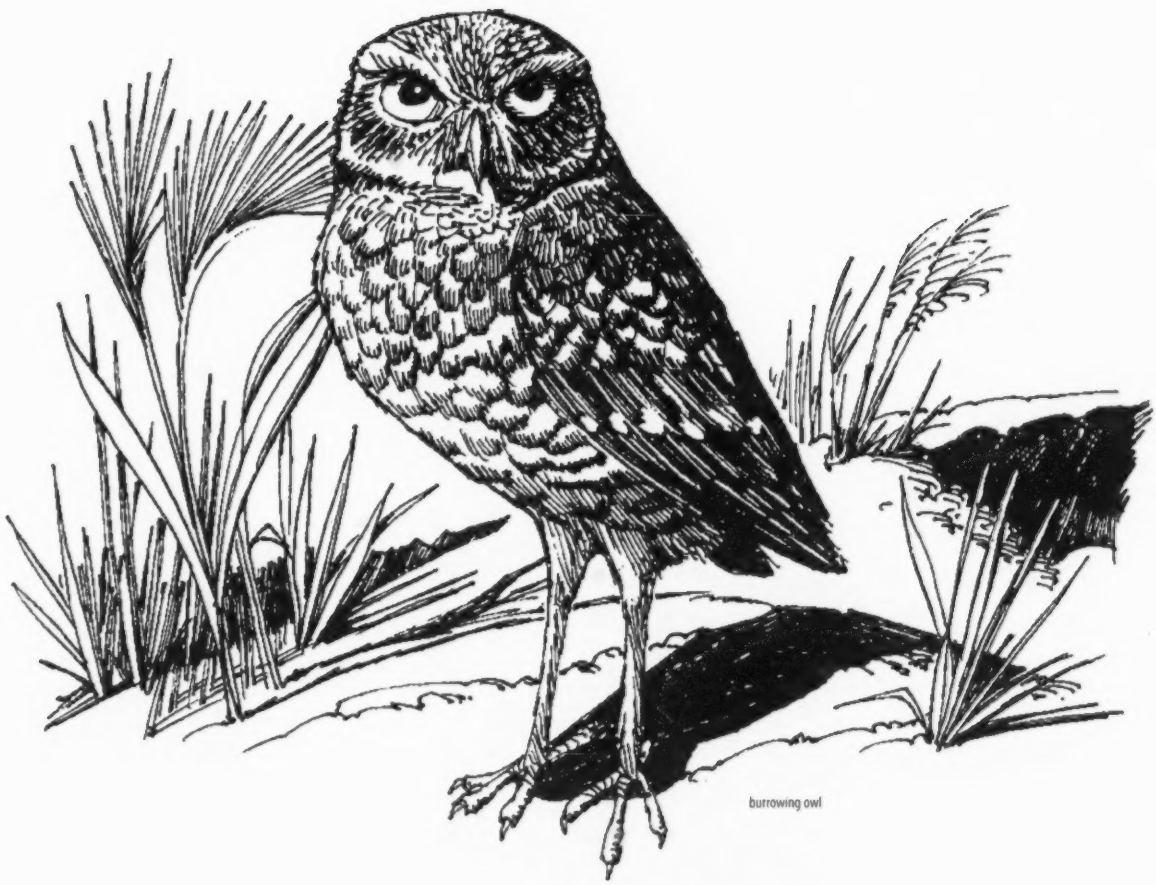
Mountain Plover

Mountain plover (*Charadrius montanus*) was designated as an *Endangered* species in Alberta in 2004, and has been protected under Alberta's *Wildlife Act* since 2006. The national *Recovery Strategy for the Mountain Plover in Canada (2006)* is available on the *Species at Risk Act* Public Registry. The federal Action Plan is currently being drafted, and provincial representatives will have input into its development.

Banff Springs Snail

The Banff Springs snail (*Physella johnsoni*) was designated as *Endangered* in Alberta in 2004. This species is only found in one place in the world – the thermal springs on Sulphur Mountain in Banff National Park, Alberta. Therefore, recovery planning for this species has been carried out by the federal government. The national *Recovery Strategy and Action Plan for the Banff Springs Snail (Physella johnsoni) in Canada* (2007) is available on the *Species at Risk Act* Public Registry.

banff springs snail



burrowing owl

PIPING PLOVER RECOVERY IMPLEMENTATION

Implementation Leader: **Dave Prescott**

TARGET SPECIES:
Piping Plover
(*Charadrius melodus*)

***WILDLIFE ACT* CATEGORY:**
Endangered

purpose To recover populations of the *Endangered* Piping Plover in Alberta to 300 breeding individuals.

Background

The piping plover is an *Endangered* species in most jurisdictions where it occurs in North America. In Canada, the species is listed as *Endangered*" under the federal *Species and Risk Act* (SARA), and has been similarly listed under the Alberta *Wildlife Act* since 2000. The continental population is between 6 000 and 8 000 individuals, with 150-300 birds occurring Alberta. Management has been ongoing since the mid 1990s, but was formalized with the approval of the *Alberta Piping Plover Recovery Plan 2002-2005*, and the subsequent *Alberta Piping Plover Recovery Plan 2005-2010*. The provincial plan is designed to integrate with the national recovery strategy for the prairie subspecies of the piping plover. The overall goal of the current provincial recovery plan is "to achieve a well-distributed, long-term population of 300 individual piping plovers within their historical range in Alberta". Progress made toward the recovery strategies listed in the *Alberta Piping Plover Recovery Plan 2005-2010* are outlined below.

Population Conservation and Management

- Population surveys for piping plovers are conducted on an annual basis in Alberta. These surveys are primarily intended to monitor shifts in populations as lake conditions change, so that management (especially predator exclosures; see below) can be directed to the areas with the greatest number of birds. Surveys also help evaluate the overall success of the recovery program. In 2008, we censused 26 lakes, and found 295 birds on 22 lakes. This total is the highest ever counted in Alberta, and just short of the recovery target of 300 individuals. In 2009, 27 lakes were visited, and the population declined to 220 birds on 24 lakes.
- High levels of nest predation have long been identified as the main factor limiting the size of piping plover populations on the Canadian prairies. Our main tool to mitigate this threat is the use of predator exclosures, which are small (0.6 m diameter) metal cages placed over active nests. The mesh size is large enough that plovers can enter and exit at will, but small enough that most predators cannot enter. In the past two years, 226 of 244 plover nests discovered in Alberta were fitted with exclosures. This technique is known to double nest success, and resulted in several hundred young plovers leaving the nest that would otherwise have failed to hatch. We also deployed electrical predator fences to keep terrestrial predators away from nesting areas on two lakes in eastern Alberta.

Habitat Conservation and Management

The protection and improvement of nesting habitat is one of the most important activities implemented under the recovery plan. We have made excellent progress through the following initiatives:

- We used cooperative agreements with landowners to control cattle access to nesting beaches and to use grazing as a vegetation-management tool;
- We placed protective notations on important nesting areas to alert industrial developments to the presence of an *Endangered* species;
- We erected interpretive signage to educate lake users;
- We placed cautionary signage to ask people to use off-highway vehicles responsibly; and
- We made regular visits and presentations to landowners and lake users to increase and maintain support for plover management programs.

The result of this work has been the enormous improvement in the quality of piping plover habitat in the province since 2002, when formal recovery activities were initiated. In the past two years, the number of new projects has declined, as there are fewer areas in need of management.

COOPERATING AGENCIES

Alberta Conservation Association; Special Areas Board; Sustainable Resource Development Lands Division; Government of Canada - National Defence and Canadian Forces; Alberta Culture and Community Spirit; Ducks Unlimited Canada; and all agencies associated with the Alberta Piping Plover Recovery Team.

For more information contact:

Dave Prescott (*see page 7*)

Alberta Species at Risk Recovery Plan: No. 18

Related Species at Risk reports: No. 26, 27, 84, 99

Research

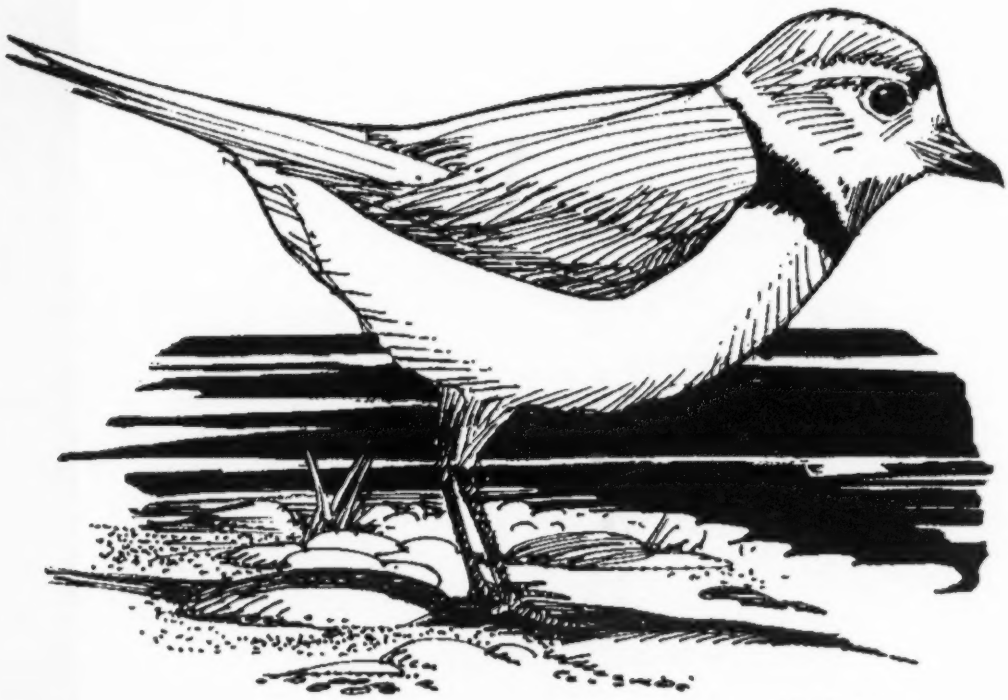
- Research activities during the two-year period included banding of chicks and analysis of movement patterns since 1998, development of a habitat rating system, and the use of remote cameras to monitor predators on piping plover nests.

Plan Management and Administration

- Guidance for management activities is provided by the 10-member Alberta Piping Plover Recovery Team, which has met annually since 2001.
- Management activities are implemented by the Fish and Wildlife Division and the Alberta Conservation Association.
- Staff from these agencies also oversee administrative activities such as fundraising, database management, securing permits, and liaison with landowners and partner agencies.

Looking Ahead

Piping plover populations have more than doubled in Alberta since formal recovery activities began in 2002, and the recovery target of 300 individuals was nearly achieved in 2008. The tools being employed to manage plovers therefore appear to be effective. An updated recovery plan to guide management activities for the next ten years has been drafted and will be presented to the Endangered Species Conservation Committee in spring 2010.
It is unlikely that the approaches to plover management will be substantially altered in the near future. It is clear however, that the main threat to piping plovers (low productivity due to high predator populations) cannot be eliminated. The persisitence of plovers in Alberta will therefore require an ongoing commitment of resources to ensure that management programs can continue. If so, the future of piping plovers in this province is bright.



piping plover

PEREGRINE FALCON RECOVERY IMPLEMENTATION

Implementation Leader: **Gordon Court**

TARGET SPECIES:
Peregrine Falcon
(Falco peregrinus)

***WILDLIFE ACT* CATEGORY:**
Threatened

purpose To return the population of peregrine falcons in Alberta to a level approximating its estimated size before the introduction of organochlorine pesticide pollutants.

Background

In 2000, the peregrine falcon was downlisted from *Endangered* to *Threatened* in Alberta in recognition of an increasing population, a measured reduction in pesticide residues in tissues, and demonstrated improvements in reproductive performance. Along with this change in listing, the Minister of Environment (now Sustainable Resource Development) accepted an Initial Conservation Action Statement from the Endangered Species Conservation Committee that recommended further recovery actions in the province. This included the formation of a multi-stakeholder recovery team whose role is to advise the Minister on all matters relating to peregrine falcon conservation in the province, and preparation of a recovery plan. The *Alberta Peregrine Falcon Recovery Plan 2004-2010* was produced to embrace the objectives of the ministerially approved Initial Conservation Action Statement.

Recovery goals for Alberta are based on population, pesticide contaminant, and productivity targets derived from historical data and on an understanding of threshold levels for 'healthy' peregrine populations. These goals are:

- To achieve a well-distributed, average population of 70 territorial pairs of peregrine falcons in Alberta by 2010;
- To monitor pesticide contaminants in non-viable peregrine falcon eggs in the province to ensure that geometric mean levels of residue DDE remain below 7.5 mg/kg (parts per million) over the long term; and
- To employ all management techniques possible to achieve a mean fledging rate of greater than 1.25 young/territorial pair/year in the province over the long term.

Progress made toward the recovery actions listed in the *Alberta Peregrine Falcon Recovery Plan 2004-2010* are outlined below.

Population Conservation and Management

- Alberta will participate in the next national peregrine falcon survey in 2010. DDE residues in eggs collected during the last decade still average well below critical level for successful reproduction. Fledging rates are well above 1.25 young/territorial pair/year.
- As many as eight pairs nest on man-made structures in Edmonton, two pairs nest in the centre of Red Deer, and another four pairs nest on buildings in Calgary.

Research

- The Fish and Wildlife Division has been actively participating in a Canadian Wildlife Service led project whereby certain individual peregrines have been fitted with satellite telemetry equipment and are tracked as they make their annual migration to and from their wintering grounds. In addition to new findings regarding migration, much has been learned about the behaviour of non-breeding adult peregrines in Alberta.

Information and Education

- Much progress has been made in educating the public about the conservation of peregrine falcons. Several presentations on this species and its recovery program are made each year to both technical and non-technical audiences.
- Owners and operators of industrial sites used by nesting peregrine falcons are educated in ways to minimize activities that may negatively affect their recovery, and generally these operators are eager to be involved in the conservation program.

Plan Management and Administration

- Other initiatives are ongoing, including the continued entry of peregrine falcon nesting information into the Fish and Wildlife Management Information System (FWMIS). Provincial Species at Risk staff also continue to participate on the national recovery team.

Looking Ahead

The next national survey for peregrine falcons will occur in summer 2010. A variety of agencies will continue to be invited to participate in the funding and implementation of recovery initiatives. Alberta will continue to participate on national recovery initiatives.

COOPERATING AGENCIES

Alberta Conservation Association; Alberta Sport, Recreation, Parks and Wildlife Foundation; Beaverhill Bird Observatory; Canadian Wildlife Service; North American Waterfowl Management Plan; and all agencies associated with the Alberta Peregrine Falcon Recovery Team.

For more information contact:

Gordon Court *(see page 7)*

Alberta Species at Risk Recovery Plan: No. 3

Related Species at Risk reports: No. 2, 34, 57

WOODLAND CARIBOU RECOVERY IMPLEMENTATION

Implementation Leader: **Dave Hervieux**

TARGET SPECIES:
Woodland Caribou
(*Rangifer tarandus caribou*)

***WILDLIFE ACT* CATEGORY:**
Threatened

purpose | To meet the recovery plan's goal of achieving a self-sustaining population of woodland caribou over the long term.

Background

The provincial recovery planning process for woodland caribou in Alberta was initiated in response to a reaffirmation of the species' legal designation as *Threatened* in Alberta, under the provincial *Wildlife Act*, in September 2001. This status was based on continuing woodland caribou population and distribution declines, small population size, dependency on older forest, and sensitivity to human activities. Soon after, in 2002, the southern mountain and boreal populations of woodland caribou were also listed nationally as *Threatened* by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

At the direction of the Minister of Sustainable Resource Development (the Minister), the Alberta Woodland Caribou Recovery Team was officially formed in the fall of 2002. The primary responsibility of the team was to guide recovery efforts in Alberta through development of a plan outlining recovery strategies and actions necessary to recover woodland caribou in the province. The recovery team completed the *Alberta Woodland Caribou Recovery Plan 2004/05-2013/41* in 2004. This plan received qualified approval from the Minister; all provisions of the plan were adopted with the exception of a recommendation advocating a moratorium on new resource development allocations in the range areas of caribou populations at immediate risk of extirpation.

The Alberta Woodland Caribou Recovery Team was disbanded by the Minister in 2005. In its place, the Alberta Caribou Committee was created to be the sole collective stakeholder group advising the Minister on caribou conservation and recovery. The Alberta Caribou Committee is overseeing a process of caribou landscape planning, to develop plans and recommendations for recovery actions for individual caribou ranges contained within five planning areas within the province. The intent of completing these plans is to develop recommendations for recovery actions and convey these recommendations to the Minister. The first set of landscape plan recommendations, for caribou ranges in west central Alberta, were conveyed to the Minister in 2008. Progress in 2009 included work on the Athabasca and Chinchaga caribou landscape planning areas.

Progress during 2008-2009 and 2009-2010 on various recovery strategies is described in the following.

Population Conservation and Management

- Our ongoing objective is to achieve low densities of both wolves and alternate prey (other ungulates) within caribou range across the province.
- Intensive wolf management has been conducted in the Little Smoky caribou range since 2005.
- Work has been ongoing with forest management agreement lease holders to delay or reduce harvest within some caribou ranges; doing so reduces the proliferation of habitat for alternate prey, which in turn, prevents the proliferation of predators.
- We have increased the number of hunter allocations for ungulates within Wildlife Management Units that are included in caribou range.

Habitat Conservation and Management

- Work has been ongoing to identify intact areas within caribou range and minimize footprint within these intact areas.
- Existing caribou location data has been used to prioritize caribou range for land use decisions and the development of conservation areas.
- Work has continued with various government departments and divisions to develop, implement, and enforce best management practices for industrial development, and develop reclamation/restoration strategies within caribou range.

Research

- The Alberta Caribou Committee Research and Monitoring Subcomittee has been addressing knowledge gaps and advising on monitoring and research directives since 2004.
- We continue to maintain at least 20 active radio telemetry collars on caribou cows within each range to monitor adult female survival. Relocation flights are flown quarterly.
- Ongoing annual spring composition surveys help us to determine estimates of calf recruitment and composition ratios.
- We calculate population growth rates for all ranges (lambda) on an annual basis to determine the trends for each independent population.

COOPERATING AGENCIES

Alberta Caribou Committee; Sustainable Resource Development Lands and Forestry Divisions; Weyerhaeuser Company Ltd.; Vanderwell Contractors, Ltd.; West Fraser Timber Co. Ltd.; Alberta Pacific Forest Industries, Inc.; Parks Canada; University of Alberta; Nature Alberta; and ConocoPhillips Canada.

For more information contact:

Dave Hervieux
(Dave.Hervieux@gov.ab.ca)

Alberta Species at Risk Recovery Plan: No. 4

Related Species at Risk reports: No. 23, 33, 48

- We continue to sythesize location data from GPS and VHF collars to better deliniate the extent of caribou range for all populations.

Plan Management and Administration

- Two caribou landscape planning teams (West-Central and Athabasca) have been formed, and these teams have produced plans for the Alberta Caribou Committee.

Reduce Human and Industrial Footprints

- Work has continued with various government departments and divisions to develop, implement, and enforce best management practices for industrial development, and develop reclamation/restoration strategies within caribou range.

Looking Ahead

A detailed status report update is underway, which will be completed sometime in 2010.

woodland caribou

ORD'S KANGAROO RAT RECOVERY IMPLEMENTATION

Implementation Leader: **Arlen Todd**

TARGET SPECIES:
Ord's Kangaroo Rat (*Dipodomys ordii*)

***WILDLIFE ACT* CATEGORY:**
Endangered

purpose To meet the recovery plan's goal of ensuring a viable, naturally self-sustaining population of Ord's kangaroo rats in Alberta such that they are no longer at risk of extinction in the province.

Background

The Ord's kangaroo rat was listed as *Endangered* under Alberta's *Wildlife Act* in May 2002. This designation was based on a small breeding population, dramatic within-year fluctuations in population size, geographic isolation and a restricted habitat. Nationally, the status of the Ord's kangaroo rat was uplisted from *Special Concern to Endangered* in 2006.

The Alberta Ord's Kangaroo Rat Recovery Team (initiated in 2003) completed a recovery plan that was formally approved in December 2005. Strategies for recovery of Ord's kangaroo in Alberta focus on minimizing any negative effects of human land uses on population size and fluctuations, and conserving, and where necessary, enhancing the net quantity and quality of habitat for the species in Alberta. Specific recovery strategies found in the *Recovery Plan for Ord's Kangaroo Rat in Alberta* and progress made toward each are described below.

Population Conservation and Management

- Range-wide monitoring to determine population size, distribution, annual (spring-fall) and inter-annual fluctuations has now been completed over five consecutive summers and five consecutive springs (expected as of May 2010). This work follows a rigorous protocol, each spring and summer visiting a large number of both human-altered and natural habitats that occur over the Alberta range for the species. Individual kangaroo rats are opportunistically captured/marked (as many as 500 individual handlings in a given year). Sample sizes are now sufficient to allow robust population estimates for the first time. This work augments results of earlier work, which showed that human-altered habitats appear to function as population "sinks" whereby the kangaroo rats using them suffer higher mortality and/or reduced recruitment compared to those in natural habitats.
- A Species at Risk report that identifies Beneficial Management Practices (BMPs) for resource managers and land-users was published in 2009.
- Potential sites for translocations are assessed each spring and a protocol for experimental translocations has been completed and published (see *Related Species at Risk Reports*, below). The first experimental translocations are scheduled to occur in spring of 2010.

Habitat Conservation and Management

- Comprehensive BMPs have been published; they apply to a wide variety of land-uses in Alberta, including agricultural, industrial, rural, urban, commercial, access development and management, and military activities.
- A range-wide habitat monitoring program has continued, as per established standard protocol.
- Identification of essential/critical habitats (completed in several earlier years) has continued to be successively refined, as additional data are gathered.
- A multi-party, multi-year project to monitor sand dunes and experimentally reactivate by means of both prescribed fire and grazers has continued, primarily in the Suffield National Wildlife Area (SNWA). Early work showed that the combined treatments (fire and grazing combined) were most effective at stimulating surface sand transport. We have also learned that in the SNWA, repeat fire frequency should not be less than two years. Further monitoring is required to conclusively evaluate the effectiveness of grazing and prescribed burning for activating dunes, and to further corroborate their effectiveness at reducing litter and vegetative cover, which enhances suitability for Ord's kangaroo rats.
- Selected recovery team members participated in the environmental assessment of EnCana's proposed shallow gas infill project in the SNWA, including involvement in the public hearings, and development of an approach to comprehensive identification of critical/essential habitat for the Ord's kangaroo rat in the SNWA.

Information and Education

- The recovery plan and program was promoted to stakeholders and public at all possible opportunities.
- Media interviews/articles were provided to several outlets.
- Presentations focusing in whole or in part on the Ord's kangaroo rat recovery were given each year to a variety of groups, including Alberta Sustainable Resource Development's Species at Risk staff, managers, and students.

COOPERATING AGENCIES

Agriculture and Agri-Food Canada; CFB Suffield; EnCana Corporation; Environment Canada's Interdepartmental Recovery Fund; Geological Survey of Canada; University of Calgary; University of Lethbridge; various landowners; and all agencies associated with the Alberta Ord's Kangaroo Rat Recovery Team.

For more information contact:

Arlen Todd (*see page 7*)

Alberta Species at Risk Recovery Plan: No. 5

Related Species at Risk reports: No. 63, 113, 125, 131

Plan Management and Administration

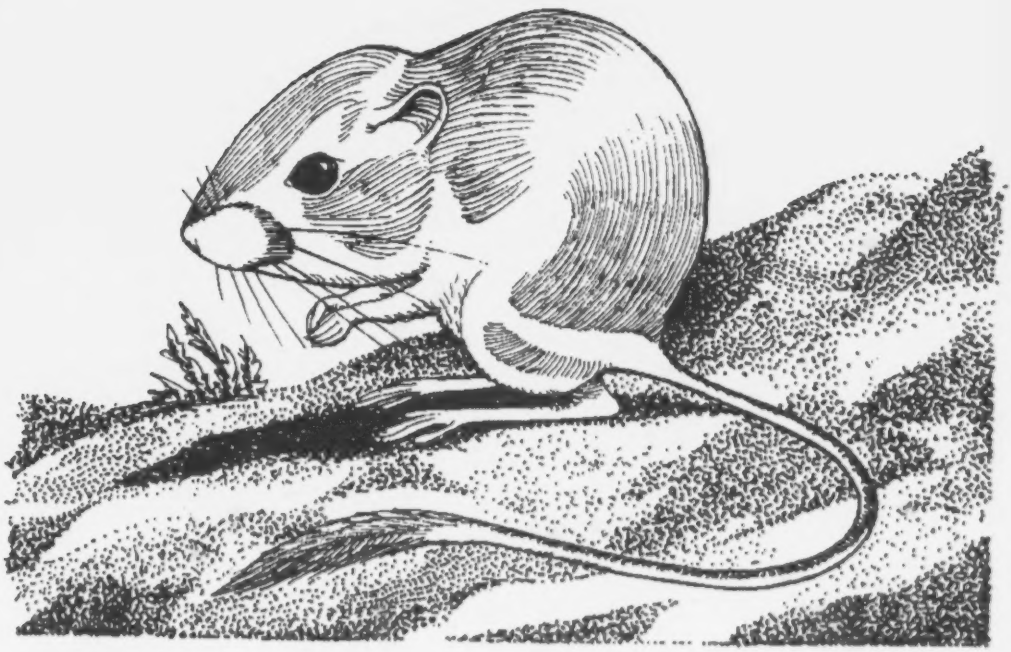
- A total of 16 meetings of the full Recovery Team have been held since its inception.
- Ord's kangaroo rat data have been entered regularly into several key databases, including the Fisheries and Wildlife Management Information System (FWMIS).

Looking Ahead

In-depth review/evaluation/revising of the plan for the following period of years has begun (approximately 2009-2010 through 2013-2014). Key activities in inventory, habitat conservation and management (including dune reactivation) are continuing in the meantime. Additionally, development/publication of the BMPs is resulting in a current effort to review and expand on existing educational initiatives for the Ord's kangaroo rat.

That emphasis on educational initiatives will likely continue in the coming year. It is also expected that a detailed report on the range-wide population monitoring (with robust population estimates) will be prepared in 2010-2011; this work may prompt a detailed status review in succeeding years.

On the national scene, provincial program staff continue to work with Environment Canada on the identification of critical habitat for Ord's kangaroo rat on federal lands in Alberta; said federal lands encompass a large majority of the most important habitats for this species in Alberta. Additionally, collaboration is occurring on a national strategy for the Ord's kangaroo rat (led by Environment Canada); this strategy will cover its entire range in Canada (Alberta, Saskatchewan), and will result in greater emphasis and coordinated efforts on this unique dune-dependent species.



ord's kangaroo rat

BURROWING OWL RECOVERY IMPLEMENTATION

Implementation Leader: **Arlen Todd**

TARGET SPECIES:
Burrowing Owl
(*Athene cunicularia hypugaea*)

***WILDLIFE ACT* CATEGORY:**
Endangered

purpose To increase the population to viable, naturally self-sustaining levels, with the species well distributed throughout its recent (1993) range.

Background

The burrowing owl was first listed as *Threatened* under Alberta's *Wildlife Act* in 1987. This listing was upheld in 2000 following a review of the species' status. Most recently, the status was uplisted to *Endangered* in 2006. Nationally, the burrowing owl has been listed as *Endangered* since 2003 (formerly *Threatened*). The Alberta Burrowing Owl Recovery Team was formally established in June 2001, and a recovery plan was approved by the Minister of Sustainable Resource Development (SRD) in December 2005. Specific recovery strategies and progress made toward each during 2008/2009 and 2009/2010 are described below.

Population Conservation and Management

- Habitat Suitability Indices (developed through the MULTISAR project) were made available on the departmental website; these are being used as an indirect means of determining where burrowing owls should be, and might be.
- The recovery program encouraged data sharing, including pre-development survey information from industry.

Habitat Conservation and Management

- Several stewardship programs (on both provincial and smaller scales, e.g., Operation Grassland Community, MULTISAR, Nature Conservancy of Canada) continued to emphasize habitat conservation and restoration for burrowing owls.

Research

- A multi-year, multi-party project to evaluate the effects of energy sector development on burrowing owls continued. The project is determining and comparing burrowing owl activities, activity patterns and habitat use (including nesting and foraging, home range size and shifts) in disturbed and undisturbed areas in both Alberta and Saskatchewan. Results of the project are contributing to the objective evaluation of management measures such as setback distances and development thresholds, and aiding the understanding of cumulative effects of grassland developments on the burrowing owl. Detailed monitoring has variously included micro data loggers, remote video monitoring of prey deliveries at selected nests, and footprint analyses of anthropogenic developments at three different scales.

Information and Education

- Presentations and occasional media interviews which focused in whole or in part on burrowing owl recovery were given each year to a variety of groups, including the following: schools; landholders; SRD's Species at Risk staff; SRD managers and staff, provincially and in the Prairies Management Area.
- The recovery program and plan were promoted to stakeholders, land managers and the public at all possible opportunities.
- Established stewardship programs continued education and awareness initiatives on burrowing owls and other grassland species (e.g., the MULTISAR landholder guide *At Home on the Range*; school talks by Operation Grassland Community)

Plan Management and Administration

- The recovery team held one meeting in year 5, on Feb. 26, 2009. A total of 13 meetings of the Alberta Burrowing Owl Recovery Team have been held since its inception.
- Burrowing owl data were entered into several key databases, including the Fisheries and Wildlife Management Information System.

Looking Ahead

At the time of printing this report, in-depth review/evaluation/revising of the plan for the following period of years has begun (approximately 2009-2010 through 2013-2014). Key activities in habitat conservation and management, public education and awareness, and research will also continue in the year ahead. Likewise, the burrowing owl energy sector project (see "Research" section, above) is scheduled for completion in 2010-2011.

COOPERATING AGENCIES

Alberta Conservation Association; Science Horizons Internship Program; Interdepartmental Recovery Fund; Alberta Sport, Recreation, Parks, and Wildlife Foundation; Endangered Species Recovery Fund; MULTISAR; Operation Grassland Community; Prairie Farm Rehabilitation Administration; University of Alberta; Canadian Natural Resources Ltd.; EnCana Corporation; ConocoPhillips Canada; Petroleum Technology Alliance Canada; Alberta Upstream Petroleum Research Fund; and all agencies associated with the Alberta Burrowing Owl Recovery Team.

For more information contact:

Arlen Todd (*see page 7*)

Alberta Species at Risk Recovery Plan: No. 6

Related Species at Risk reports: No. 8, 51, 54, 58 116

NORTHERN LEOPARD FROG RECOVERY IMPLEMENTATION

Implementation Leader: **Dave Prescott**

TARGET SPECIES:
Northern Leopard Frog
(*Lithobates pipiens*)

***WILDLIFE ACT* CATEGORY:**
Threatened

purpose To achieve well-distributed and self-sustaining populations of northern leopard frogs throughout their historical range in Alberta.

Background

The northern leopard frog (*Lithobates pipiens*) was once a widespread and abundant amphibian across much of North America. In the 1970s, sudden and unexplained population declines occurred over much of the species' range. This was especially true in western North America, where populations remain low in many areas to this day. The species was listed as *Theatened* in Alberta in 1996; this listing was reaffirmed after detailed assessment in 2004. Later that year, the Alberta Northern Leopard Frog Recovery Team was formed, along with a Technical Advisory Committee. The team prepared the *Alberta Northern Leopard Frog Recovery Plan, 2005-2010*, which was approved by the Minister of Sustainable Resource Development in 2005. The plan aims to restore populations of northern leopard frogs in Alberta through a variety of strategies and actions. The recovery program recognizes that humans share the landscape with this *Threatened* species, and that recovery must be accomplished in partnership with landowners, industry, and other land-users in Alberta. Recent progress toward recovery strategies listed in the recovery plan, is detailed below.

Population Conservation and Management

Population and habitat monitoring includes all actions related to assessing the status of known populations, as well as searching for new populations and determining the success of reintroductions. Field crews conduct surveys at between 30 and 50 sites each year. These occur in the spring, to determine breeding locations, or in the late summer to determine productivity when young-of-the-year are abundant. Key activities over the past two years include:

- Detailed spring and late summer inventories at approximately 70 sites in southern Alberta, as well as in the Canadian Shield Natural Region in the far northeast of the province.
- Monitoring of survival and overwinter success at 10 reintroduction sites.
- Discovery of eight to 10 new populations in southern Alberta. These sites were reported by the public and subsequently verified by recovery staff, or were prioritized for surveys based on a high probablity of occurrence indicated by a habitat model completed in 2006.
- Continuation of the northern leopard frog reintroduction program. To date, reintroductions have been completed at six sites: Grainger Dam and Michichi Reservoir near Drumheller, one site in Waterton Lakes National Park, Snake Lake and Rock Lake near Brooks, and at Wynham-Carseland Provincial Park near Calgary. A first year of egg movement has also occurred into Beauvais Lake Provincial Park near Pincher Creek, Kinbrook Island Provincial Park near Brooks, and Big Knife Provincial Park near Stettler. A second site at Waterton Lakes Provincial Parks also received eggs in 2009. Egg hatch and transformation into subadult frogs has been successful at most sites, but overwinter survival has been fairly low and the ultimate success of these efforts will be determined over the next several years.

Habitat Conservation and Management

Habitat conservation occurs through direct stewardship initiatives with landowners and lessees, and through the industrial referral process, whereby wildlife managers have input into developments that may impact local wildlife populations. Seven stewardship initiatives have been completed by staff of the Alberta Conservation Association since 2006. These include the following:

- Installation of a gravity- and spring-fed cattle watering system to improve the water quality in a leopard frog breeding pond along Trout Creek.
- Installation of three interpretive signs for the Galt Canal Nature Trail associated with the Magrath northern leopard frog reintroduction site, within the Town of Magrath.
- Habitat improvements at a leopard frog site in Taber. Work included the removal of numerous abandoned vehicles and other debris from waterbodies, and hydro-seeding with native grasses on upland habitats damaged by off-highway vehicle use and other human activities.
- Maintenance of stewardship projects completed in the previous two years at Prince's Spring, Drain K, Jenner Springs, and Red Creek.

COOPERATING AGENCIES

Alberta Conservation Association; Alberta Employment and Immigration; Sustainable Resource Development Lands and Forestry Divisions; Alberta Research Council; Alberta Tourism, Parks, and Recreation; Environment Canada Habitat Stewardship Program; National Defence and the Canadian Forces; North American Waterfowl Management Plan; Parks Canada; TD Friends of the Environment; private landowners and lessees; and all agencies associated with the Alberta Northern Leopard Frog Recovery Team.

For more information contact:

Dave Prescott (*see page 7*)

Alberta Species at Risk Recovery Plan: No. 7

Related Species at Risk reports: No. 13, 42, 43, 44, 78

Research

Many aspects of the biology and management of northern leopard frogs are poorly understood. Various research initiaves have been undertaken or supported by the Northern Leopard Frog Recovery Team, including the following during 2008-2010:

- Completion of province-wide surveillance for chytrid fungus (*Batrachochytrium dendrobatidis*) and iridoviruses (including ranaviruses) in northern leopard frogs and other amphibians. Preliminary results suggest that chytrid fungus is widespread in all species of amphibians in Alberta, and that iridoviruses are found at low frequencies in leopard frogs. The presence of these diseases poses a new risk for leopard frog populations in the province.
- Participation in a study conducted by the Calgary Zoo to determine detectability of leopard frogs. This study will help determine the status of populations in the province, and lead to better techniques for surveying northern leopard frogs.

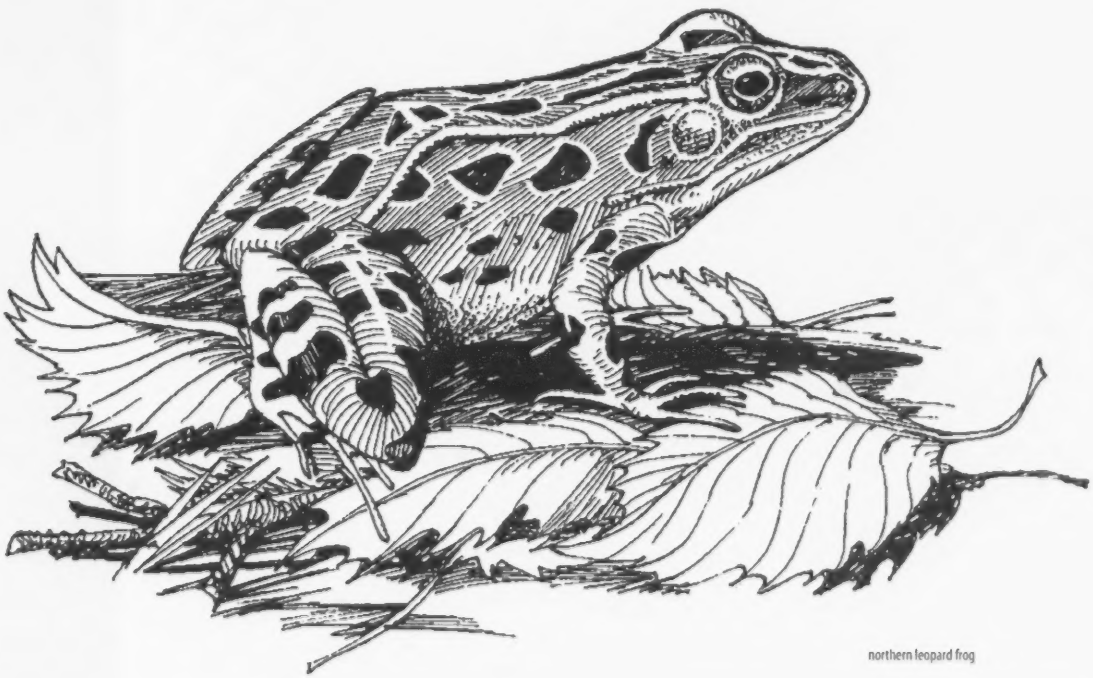
Information and Education

Educational activities inform the public, industry, and conservation partners about leopard frogs and their management. Progress toward this recovery strategy includes the following:

- We actively encourage the public to submit records of leopard frog sightings to learn of previously unknown populations. To this end, we continued distribution of the northern leopard frog "Wanted" poster and postcards
- We gave presentations to the public, and several articles on frogs and their management were showcased in a variety of newpapers, newsletters and other media.
- Visits were made to meet more than 40 landowners near Wainwright to better determine the status of leopard frogs in the lower portion of the Battle River basin.

Looking Ahead

Recovery plans in the Alberta Species at Risk program are subject to periodic updates; a new plan to guide recovery efforts for the northern leopard frog over the next five years is currently being drafted. Emphasis will be placed on determining the success of reintroductions that have happened over the past three years, and on continued monitoring to determine the status of the provincial populations. Some additional reintroductions will be attempted, but a large effort will not be re-initiated until the success of past work is determined. Although there appear to be large and productive populations in some areas of Alberta, many populations near the periphery of the range appear to be very small and vulnerable to extirpation. These populations will require monitoring, habitat protection, and stewardship if they are to persist.



northern leopard frog

GREATER SAGE-GROUSE RECOVERY IMPLEMENTATION

Implementation Leaders: **Dale Eslinger** and **Joel Nicholson**

TARGET SPECIES:
Greater Sage-grouse
(Centrocercus urophasianus)

***WILDLIFE ACT* CATEGORY:**
Endangered

purpose | To enhance and maintain habitat for sage grouse, and recover the population to a sustainable level.

Background

The greater sage-grouse in Alberta is at the northern limit of its continental range. Silver sage-brush (*Atemesia cana*) provides most of the diet of Alberta adult birds. Sage-grouse range is currently limited to the south-eastern corner of the province and represents only about 10% of historic range in Alberta. The Alberta greater sage-grouse population has declined by 66%-92% over the last 30 years. Currently there are only 300-400 birds remaining in the province. Previous research in Alberta suggests that the population decline was a result of poor recruitment; this may be a result of inadequate quality of brood rearing habitat. Numerous other factors have also been implicated for affecting the sage-grouse population.

The greater sage-grouse has been an *Endangered* species in Canada since 1998. This species was also listed as such under Alberta's *Wildlife Act* in 2000. In December 2005, the *Alberta Greater Sage-Grouse Recovery Action Plan* was approved by the Minister of Sustainable Resource Development (SRD). This plan was the result of a local community based collaborative planning process involving various affected stakeholder groups. This summary covers progress towards implementation of recovery strategies listed in the recovery plan that has occurred during 2008-2009 and 2009-2010.

Population Conservation and Management

- The annual inventory of birds attending the known active leks has continued. Lek counts occur at the end of April when peak attendance normally occurs. At this time of year, mating is mostly completed and juvenile males are tolerated by dominant males at each lek site. Hence, peak male attendance can be assessed and used as an index of the total population. Abandoned (historical) leks are also monitored in the event of re-patriation by the birds.

Habitat Conservation and Management

The *Alberta Greater Sage-grouse Recovery Action Plan* (2005) prescribes a number of habitat conservation and management actions presently underway. These include:

- A land-use simulation model has been completed. This model was produced through collaboration of a fairly large group of resource managers and grouse experts. The model predicts that conventional oil and gas development in sage-grouse range has peaked and will steadily decrease over the next 50 years. Effective habitat for sage-grouse should increase immediately in the Alberta recovery area.
- In 2007, a Memorandum of Understanding (MOU) was signed by Alberta, Montana and Saskatchewan regarding transboundary wildlife concerns in the northern sage steppe. This agreement has since facilitated data sharing, coordination of research and management in southeast Alberta, northeast Montana and southwest Saskatchewan. The MOU has been sanctioned by the Western Association of Wildlife Agencies. Sage-grouse were one of the key species of concern identified under the agreement.

Research

Many research projects on sage grouse and their habitat have occurred throughout the course of the sage grouse recovery program. During 2008-2009 and 2009-2010, an additional project was completed on the population genetics of sage grouse, by the University of Alberta.

The following research initiatives are currently underway:

- A comprehensive analysis of the scientific literature that examines the impacts of the oil and gas industry on sage-grouse in North America has been completed. An annotated bibliography has been prepared and draft land-use standards have been completed. Meetings are ongoing between SRD and local oil and gas companies operating in sage-grouse range to review the literature and discuss the draft guidelines with the goal of striking an accord for voluntary compliance.
- An examination of reclamation and restoration of silver sage-brush through the University of Calgary is ongoing.
- Environment Canada (Parks Canada and the Canadian Wildlife Service) have been meeting with provincial agencies from Alberta and Saskatchewan in an effort to develop a habitat model for sage-grouse. The modeling process will eventually lead to definition of "critical habitat" by the federal government. The resulting map products from the modeling are currently being used by SRD for its negotiations with the oil and gas industry.
- As per the recovery plan, the scientific literature regarding translocations of sage-grouse was searched. Consequently, key

COOPERATING AGENCIES

Alberta Sustainable Resource Development (Lands Division and Fish and Wildlife Division); EnCana Corporation; Iteration Energy Ltd.; Bonavista Energy Trust, Ltd.; FortisAlberta Inc.; Canadian Association of Petroleum Producers; Parks Canada; Canadian Wildlife Service; Prairie Farm Rehabilitation Association; Alberta Conservation Association; University of Calgary; University of Alberta; University of Montana; Saskatchewan Environment; Montana Fish, Wildlife and Parks; and all agencies associated with the Alberta Sage Grouse Recovery Team.

For more information contact:

Dale Eslinger
(Dale.Eslinger@gov.ab.ca) or

Joel Nicholson *(see page 7)*

Alberta Species at Risk Recovery Plan: No. 8

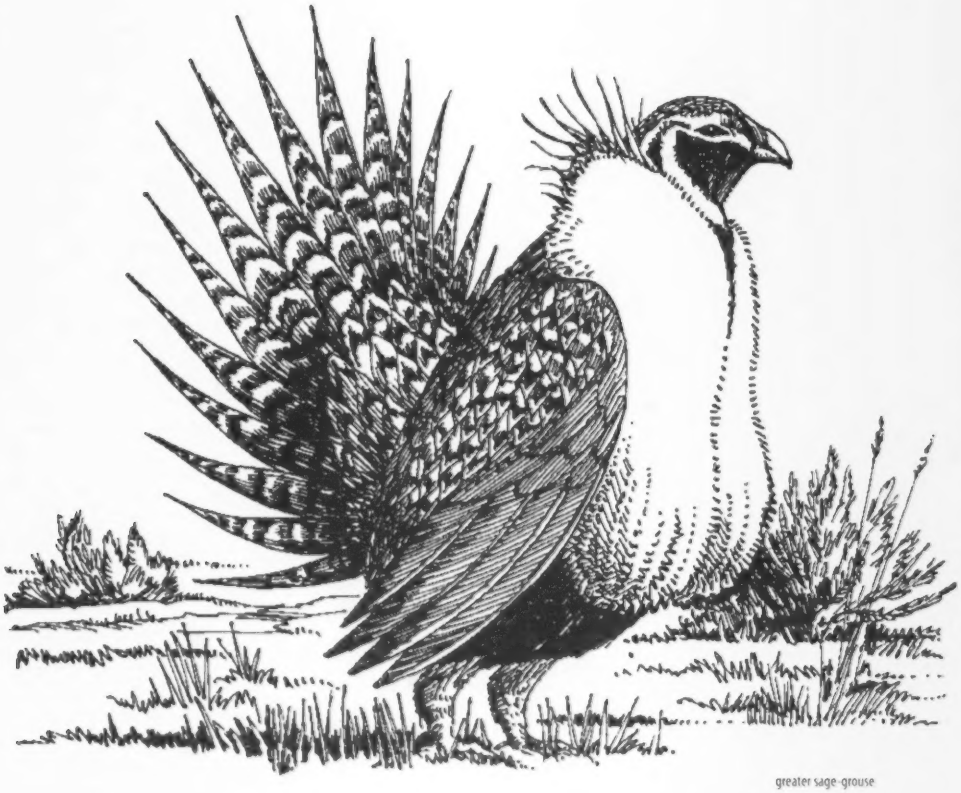
Related Species at Risk Reports: No. 19, 56

experts from other jurisdictions that have been involved with sage-grouse translocations were contacted for input and discussion. Translocation of birds from northeast Montana to Alberta is envisioned. A translocation plan has been drafted. Such translocations are viewed as experimental in nature and will require monitoring to determine success. The purpose of the translocation is to augment the current Alberta populations with genetically similar animals so that the present Alberta population can be maintained until habitat reclamation and restoration can be accomplished.

Looking Ahead

The next two years will be very busy for the sage-grouse recovery program. SRD will proceed with negotiations with Environment Canada staff on the habitat model for sage-grouse, and negotiations with relevant stakeholders to establish land use guidelines that are scientifically based will continue as well. Industry consultation will be ongoing and the results will be ultimately presented to the recovery team for review. Plans will also be formulated for habitat restoration and reclamation in key habitat areas. As a result of the critically low population of sage-grouse in Alberta, the feasibility for augmentation of the current population through translocation from other jurisdictions is being considered. Expert opinion suggests that the likelihood of successful recovery using augmentation is likely far greater than is re-introduction efforts once a population becomes extirpated.

Alberta recovery plans are subject to periodic updates; an updated plan to guide recovery efforts for the greater sage-grouse over the next five years will be produced in 2011.



greater sage-grouse

WESTERN SPIDERWORT MAINTENANCE AND RECOVERY IMPLEMENTATION

Implementation Leader: **Joel Nicholson**

TARGET SPECIES:
Western Spiderwort
(*Tradescantia occidentalis*)

***WILDLIFE ACT* CATEGORY:**
Endangered

purpose To maintain the existing habitat and distribution of western spiderwort and to maintain a naturally, self-sustaining population of western spiderwort in Alberta.

Background

In August 2001, the Endangered Species Conservation Committee (ESCC) recommended that western spiderwort be listed as *Endangered* because of its very small number of populations (one confirmed), small area of occurrence, small number of individuals, and isolation from populations in the United States and Saskatchewan. Western spiderwort is associated with active or partially stabilized sand dunes. In Alberta the species is restricted to one location of approximately 2.2 km^2 in the southeast corner of the province. This population fluctuates from year to year as a result of various environmental factors.

Following approval of this designation by the Minister of Sustainable Resource Development (SRD), the Alberta Western Spiderwort Recovery Team was formed in 2003, and later produced the *Maintenance and Recovery Plan for Western Spiderwort in Alberta 2005 – 2010*. The focus of the recovery plan is to conserve the existing populations and habitat for western spiderwort. Progress towards various maintenance and recovery strategies during 2008-2009 and 2009-2010 is reported below.

Population Conservation and Management

- Periodic inventory of western spiderwort has been occurring through the Adopt-a-Plant Alberta (APA) program. This initiative has also been assessing the presence of invasive species within western spiderwort habitat, and implementing removal projects where deemed necessary. For more detailed descriptions of these initiatives related to western spiderwort, see the Adopt-a-Plant summary on page 23.

Habitat Conservation and Management

- Sustainable Resource Development continues to work with the oil and gas industry to minimize impacts to the habitat of plant species at risk. This is done using various tools such as pre-development surveys, setback guidelines for plant species at risk developed by Environment Canada, and application of protective notations on crown lands. These activities are occurring on an ongoing basis in order to facilitate habitat protection for western spiderwort in Alberta.
- Ongoing range health assessment activities by the SRD Lands Division contribute to high levels of stewardship by the ranching community within the spiderwort habitat area.

Research

- The current population of western spiderwort is showing signs of resilience and stability. However, ongoing monitoring of the impact of invasive species on the Alberta population of western spiderwort will be necessary to focus recovery efforts. Since a number of invasive species have been identified within the western spiderwort habitat area, it is important to understand the long-term effects of these invasives on the population.
- Efficient control methods for invasive species need to be developed. Upcoming research will focus on removal trials for invasive species such as baby's breath (*Gypsophilia paniculata*) to determine the best methods to implement additional control measures if they are deemed necessary.
- Additional work related to grazing management may also be beneficial in order to determine optimal levels of grazing compatible with spiderwort, and ways to use grazing as an effective tool for control of invasive species.
- A continuation of current policy related to setbacks for industrial activity will also be key to ensuring the long-term health of the spiderwort population. Continuation of the government land-use referral system that is in place should allow for adequate pre-development screening to achieve habitat protection for this species.

Information and Education

- Educational initiatives aimed at prairie conservation continue across southern Alberta. A number of these include the western spiderwort as an example of a plant species at risk.
- Information on this species is readily available on the department website, including the latest report on implementing recovery actions through the APA program.

COOPERATING AGENCIES

Adopt-a-Plant Alberta; University of Saskatchewan; and all agencies associated with the Alberta Western Spiderwort Recovery Team.

For more information contact:

Joel Nicholson (*see page 7*)

Alberta Species at Risk Recovery Plan: No. 9

Related Species at Risk reports: No. 61, 102, 128

Looking Ahead

Implementation of recovery actions through the APA program, such as monitoring and invasive species management, will continue as resources allow. Further, the Fish and Wildlife Division will continue to seek out the best available knowledge on control methods for invasive species, and management of this identified threat will continue to be a priority in the recovery program.

Alberta recovery plans are subject to periodic updates; an updated plan to guide recovery efforts for the western spiderwort over the next five years will be produced in 2011.

western spiderwort

SOAPWEED AND YUCCA MOTH MAINTENANCE AND RECOVERY PLAN IMPLEMENTATION

Implementation Leader: **Joel Nicholson**

TARGET SPECIES:
Soapweed (*Yucca glauca*), Yucca moth (*Tegeticula yuccasella*)

***WILDLIFE ACT* CATEGORIES:**
Endangered and None

purpose To maintain the existing habitat and distribution of soapweed and yucca moths, while maintaining, and in some cases enhancing, soapweed and yucca moth populations in Alberta.

Background

Soapweed (*Yucca glauca*), commonly known as yucca, is an arid-region perennial that grows as a single rosette or cluster of rosettes of long, narrow, spear-shaped leaves. A tall flowering stalk grows from the centre of each rosette and produces large, white flowers. The yucca moth (*Tegeticula yuccasella*) is a small, white, nocturnal moth. Soapweed and yucca moths have an obligate mutualistic relationship such that moth larvae feed only on soapweed seeds and soapweed can only produce seeds if pollinated by yucca moths.

In February 2003, the Minister of Sustainable Resource Development approved the designation of both soapweed and yucca moth as *Endangered* in Alberta. These designations were based on the Alberta population of soapweed occurring at only two sites and occurring over a small area. Yucca moths appear to be near extirpation in one of the two Alberta populations (Pinhorn population) and both populations are isolated from moth populations in the United States.

Following these *Endangered* designations, a multi-stakeholder recovery team was initiated to develop a single recovery plan for both species. The goals stated in the subsequent *Recovery Plan for Soapweed and Yucca Moth in Alberta, 2006-2011* are to:

- maintain the existing habitat and distribution of soapweed and yucca moth in Alberta;
- maintain naturally, self-sustaining populations of soapweed and yucca moth at the Onefour site;
- increase the reproductive capacity of soapweed and yucca moth populations at the Pinhorn site.

It is expected that implementation of activities to conserve soapweed and yucca moth, combined with stakeholder cooperation and commitment, will allow for the long-term persistence of soapweed and yucca moths in Alberta. This summary covers progress toward implementation of recovery strategies listed in the recovery plan that have occurred during 2008-2009 and 2009-2010.

Population Conservation and Management

- Complete inventories of soapweed have occurred periodically at both the Onefour and Pinhorn sites;
- Periodic monitoring will continue as needed to assess the plant and moth population. Current provincial monitoring efforts are now focusing on documenting the reestablishment of yucca moth at the Pinhorn site. This work is now being conducted under the supervision of the Adopt-a-Plant Program (see page 23).

Habitat Conservation and Management

- Ungulate-proof exclosures were constructed at the Pinhorn site in June 2008 in order to eliminate browsing of flowering stalks and allow for reestablishment of yucca moth at the site. Additionally, approximately 40 individual grazing cages have also been placed over soapweed clones to aid in this effort. Naturally occurring moths seem to be present at the site as 38 seed pods were counted on plants in the fall of 2008 inside the grazing exclosures. One translocation of yucca moth larvae to the Pinhorn site was also conducted in 2008 using donor moth larvae in intact seed pods from a captive population. Preliminary results from monitoring in fall 2009 suggest yucca moths are again present at the site. Regular monitoring will determine if the moth population is indeed re-establishing, and inform the necessity of additional future recovery actions for the moth population at the Pinhorn site
- Sustainable Resource Development continues to work with the oil and gas industry to minimize impacts to the habitat of plant species at risk. This work involves various tools such as pre-development surveys, set back guidelines for plant species at risk developed by Environment Canada, and using protective notations (PNT) on crown lands. These activities are occurring on an ongoing basis in order to facilitate habitat protection for soapweed and yucca moth in Alberta. Work conducted in the 2009-10 season included establishment of a PNT on the Pinhorn site in order to flag this area as important *Endangered* species habitat. Additionally, ongoing range health assessment activities by the Lands Division contribute to high levels of stewardship by the ranching community within the soapweed and yucca moth habitat area.

Information and Education

Educational initiatives aimed at prairie conservation continue across southern Alberta; several of these highlight the soapweed and yucca moth as examples of species at risk.

COOPERATING AGENCIES

Agriculture and Agri-food Canada; Adopt a Plant Alberta; and all agencies associated with the Alberta Soapweed and Yucca Moth Recovery Team.

For more information contact:

Joel Nicholson (*see page 7*)

Alberta Species at Risk Recovery Plan: No. 11

Related Species at Risk report: No. 111

Additionally, the soapweed and yucca moth are a central part of the prairie species at risk display at the Etzikom Windmill Museum, located just off Highway 61 in Etzikom, Alberta. This display includes live soapweed plants that are regularly pollinated by yucca moth, and interpretive signage outlining the life cycles and conservation issues of these species at risk. This site serves to educate the public regarding general species at risk issues in the grasslands of Alberta, and in particular the unique situation of the soapweed and yucca moth.

Looking Ahead

Future research and inventory work will be required to determine the long term viability of the re-establishing yucca moth population at the Pinhorn site. Additionally, surveys aimed at detecting other species of moths such as the five-potted bogus yucca moth (*Prodoxus quinquepunctellus*) and non-pollinating yucca moth (*Tegeticula corruptrix*) should be undertaken to determine the presence/absence of these species at risk at the Pinhorn site.

yucca (soapweed)

TRUMPETER SWAN RECOVERY IMPLEMENTATION

Implementation Leader: **Mark Heckbert**

TARGET SPECIES:
Trumpeter Swan (*Cygnus buccinator*)

***WILDLIFE ACT* CATEGORY:**
Threatened

purpose To increase existing trumpeter swan populations through habitat protection and a reduction in human-caused mortality.

Background

In June 2001, the Endangered Species Conservation Committee (ESCC) recommended that the trumpeter swan be listed as *Threatened* because of its very small population and concerns over a critical shortage of wintering habitat. The Minister of Sustainable Resource Development (SRD) agreed with this recommendation, and along with the listing, endorsed the Initial Conservation Action Statement that formally initiated trumpeter swan recovery actions, including the formation of the Alberta Trumpeter Swan Recovery Team. The team produced the *Alberta Trumpeter Swan Recovery Plan 2005 – 2010*. The focus of the recovery plan is to increase the existing populations through habitat protection and a reduction in human-caused mortality. Progress toward strategies identified in the recovery plan during 2008-2009 and 2009-2010 are outlined below.

Population Conservation and Management

- A number of new breeding sites were documented from ground surveys in the Whitecourt area in 2008 and 2009.
- Efforts to secure sufficient funds for the 2010 continental breeding survey of trumpeter swans are ongoing.
- Positive hatching and survival results were documented from the Alberta trumpeter swan egg collections. These collections were previously used to form part of an artificial breeding program in Montana and Wyoming.
- Surveys from the Beaver Hills area, including Elk Island National Park, show continued expansion of the breeding flock and additional breeding locations.
- FWD staff have continued to monitor power line strike locations and have maintained the information in a database.
- Tourism, Parks and Recreation staff implemented effective public activity closures on breeding lakes within Provincial Parks and Protected Areas.

Habitat Conservation and Management

- SRD staff have implemented the land-use guidelines for trumpeter swans on breeding and staging wetlands located on public land.
- Fish and Wildlife Division (FWD) staff continue to place protective notations on public lands located in and near all known breeding wetlands.
- FWD staff have provided Alberta Energy and Alberta Environment (Water Management) with an updated list of trumpeter swan breeding locations in order to facilitate advanced planning for oil and gas mineral sales and applications for development and water withdrawal.
- FWD staff continue to work with electrical distribution companies in the County of Grande Prairie to route new power lines away from important trumpeter swan habitat.
- FWD staff continue to hold formal discussions with the County of Grande Prairie to develop land-use guidelines for trumpeter swans on private lands and to formalize a referral system for industrial developments.

Research

- Annual surveys of trumpeter swans were completed in the Beaver Hills.
- A list of research priorities was provided to the University of Alberta and a graduate student has begun research into several areas of trumpeter swan management and biology.

Information and Education

- Promotion of recovery plan implementation was completed through public tours and provision of a large poster at the Grande Prairie Swan Festival.
- Trumpeter swan postcards were printed and distributed to the public at special events and school visits.

Plan Management and Administration

- Accumulated trumpeter swan data were entered into the FWMIS database.

Looking Ahead

FWD will continue to work with electricity distribution companies to try to mitigate known collision locations. Alberta recovery plans are subject to periodic updates; an updated plan to guide recovery efforts for the trumpeter swan over the next five years will be produced in 2011.

COOPERATING AGENCIES

Alberta Tourism, Parks and Recreation and all agencies associated with the Alberta Trumpeter Swan Recovery Team.

For more information contact:

Mark Heckbert
(Mark.Heckbert@gov.ab.ca)

Alberta Species at Risk Recovery Plan: No. 12
Related Species at Risk report: No. 5

SHORTJAW CISCO RECOVERY IMPLEMENTATION

Implementation Leader: **Sara Bumstead**

TARGET SPECIES:
Shortjaw Cisco (*Coregonus zenithicus*)

***WILDLIFE ACT* CATEGORY:**
Threatened

purpose To maintain a self-sustaining population of shortjaw cisco in Barrow Lake, Alberta, over the long-term.

Background

The shortjaw cisco has been a *Threatened* species in Alberta since 2003, and nationally since 1987. In Alberta, this designation is based on the species' occurrence in only one lake (Barrow Lake) and its isolation from other populations.

In 2005, the Minister of Sustainable Resource Development (SRD) formed the Alberta Shortjaw Cisco Recovery Team with representation from Sustainable Resource Development (Fish and Wildlife, Lands and Forestry Divisions), Royal Alberta Museum, Mikisew Sport Fishing, and First Nations representation from the Métis Association, Mikisew Cree First Nation and the Athabasca Chipewyan First Nation. In January 2007, the Minister approved the *Alberta Shortjaw Cisco Recovery Plan 2006-2011*.

Recommended actions of the recovery plan include:

- protection of the shortjaw cisco population against direct and indirect effects of domestic fishing and sportfishing;
- prevention of declines or losses in habitat quantity and quality associated with human activities;
- monitoring of the population using indirect methods; and
- increasing public awareness about this species and its conservation requirements.

Progress achieved during 2008-2009 and 2009-2010 toward these actions is outlined below.

Population Conservation and Management

- In cooperation with Mikisew Sportfishing, angling pressure on Barrow Lake is being monitored through annual voluntary creel surveys as a means of indirectly monitoring the shortjaw cisco population, and its potential threats.
- In 2008, Fish and Wildlife Division (FWD) implemented restrictive sportfishing regulations for Barrow Lake (one walleye over 43 cm; one northern pike over 63 cm) to ensure the ecological balance within the lake is maintained.
- Barrow Lake is no longer listed as an eligible location for commercial or domestic fishing, due to the potential of by-catch mortality associated with these activities.

Habitat Conservation and Management

- Steps are underway to establish a protective notation around Barrow Lake with the Lands Division to ensure future land-use activities are compatible with the conservation of the shortjaw cisco.
- We are working with the Forestry Division to establish a strategy that will avoid use of Barrow Lake as a water source or base for regional forest protection activities in all but major emergency situations.

Information and Education

- With support from the Government of Canada's Habitat Stewardship Program for Species at Risk, and in collaboration with the Royal Alberta Museum, we produced an informative brochure on the shortjaw cisco to raise awareness about this unique species, its status, and conservation actions and requirements.
- Community meetings were held in Fort McMurray and Fort Chipewyan to update the local communities of the recovery status of the shortjaw cisco, and promote stewardship and conservation of this species.

Research

- The FWD and the Royal Alberta Museum, with support from the Habitat Stewardship Program for Species at Risk, conducted pilot testing of an alternative method for non-lethal monitoring of shortjaw cisco involving underwater camera technology.

Looking ahead

We will continue to support and assist cooperating agencies in the development and testing of non-lethal methods to monitor the shortjaw cisco population. Conservation needs and stewardship for this species will continue to be promoted within the local communities. Opportunties to work with Alberta Environment to to identify appropriate monitoring surrogates (e.g. water quality parameters) will be explored as resources become available.

COOPERATING AGENCIES

The Government of Canada Habitat Stewardship Program for Species at Risk; Mikisew Sportfishing; The Royal Alberta Museum; SRD Lands Division; SRD Forestry Division; SRD - Public Information, Education, and Outreach Programs; and all agencies associated with the Alberta Shortjaw Cisco Recovery Team.

For more information contact:

Sara Bumstead
(Sara.Bumstead@gov.ab.ca)

Alberta Species at Risk Recovery Plan: No. 13

Related Species at Risk reports: No. 3, 82

SWIFT FOX RECOVERY PLAN IMPLEMENTATION

Implementation Leader: **Joel Nicholson**

TARGET SPECIES:
Swift Fox (*Vulpes velox*)

***WILDLIFE ACT* CATEGORY:**
Endangered

purpose To establish a well-distributed, healthy, and self-sustaining viable population of swift fox within its remaining historical range in Alberta within 20 years.

Background and Activities

Swift foxes are canids identified by their small size (2 - 3 kg), long black-tipped bushy tails, and by black facial spots on each side of their muzzle. Historically, large populations of swift foxes ranged across the Canadian prairies. Rapid declines in abundance of the swift fox began in the late 1800's as foxes were trapped or eliminated during predator control programs. The last sighting of a swift fox in Alberta was in 1938 near Manyberries. Beginning in 1983, captive-raised and wild-born swift foxes from the United States were reintroduced into southern Alberta and Saskatchewan. This reintroduction program led to the establishment of a small population of foxes on the Canadian prairies, which also spilled over the border into Montana, USA. However, ongoing threats to the species, including habitat alteration and fragmentation, predator and competitor abundance, inappropriate predator and pest control, disease, and human caused mortality, continue to threaten the swift fox.

The swift fox was formally designated *Endangered* in Alberta in 2000, and the Alberta Swift Fox Recovery Team was initiated to develop a recovery plan for the species. In December 2007 the Minister of SRD approved the *Alberta Swift Fox Recovery Plan 2006-2011*, which outlines activities related to swift fox conservation. Priority actions outlined in the plan include initiatives such as population inventory, habitat modeling, population viability modeling, a disease prevention program, vehicular mortality assessment and management, and protective notation placement on provincial lands. Identification of critical habitat for swift foxes in collaboration with the national recovery team is also contingent on completion of a number of these tasks.

Recent progress towards recovery strategies outlined in the recovery plan are described below.

Population Conservation and Management

- Investigation into the effects of road mortality on the swift fox population is ongoing. Road kill of swift fox is well documented and has occurred in a number of instances on Highway 41 and other roads in southeast Alberta. Increasing traffic volumes and/or highway expansion plans could exacerbate this problem. This threat has been identified as a concern by both the provincial and national recovery teams. The collection of baseline data on current levels of mortality is the first step in the process to manage this issue. Initial attempts at implementing a road monitoring program have involved voluntary submission of mortalities encountered by government staff members and the public.
- We have completed steps toward a more comprehensive management program for road mortality of swift fox. This has included a review of key literature and development of an annotated bibliography of wildlife traffic mortality literature applicable to swift fox. Compilation and mapping of known mortality locations for Alberta has also been completed.

Habitat Conservation and Management

- The 2008-2010 program included production of a preliminary critical habitat model by the Calgary Zoo and Parks Canada in cooperation with the national recovery team. In partnership with Fish and Wildlife and other partners, the model received additional validation in the winter of 2008-09 using a camera trap. This involved utilizing remote cameras at scent post locations to detect the presence of swift fox. Areas identified as high, medium, and low probability of swift fox occurrence were tested. The method proved very useful at detection of swift fox, as well as many other wildlife species. The model that was developed proved to be highly predictive of swift fox presence on the landscape. This newly validated habitat model will serve as the basis for population viability modelling to inform future recovery actions, and to accurately define critical habitat for swift fox in Alberta.
- The MULTISAR program continues to be one of the main delivery mechanisms for species at risk conservation and stewardship with landholders in southern Alberta. MULTISAR conservation plans are underway or completed on large ranches that contain significant swift fox habitat. These plans ensure that appropriate management considerations for this species at risk are implemented on cooperating ranches. Further, an active swift fox den was located on one project co-operator's ranch as part of the wildlife inventory work conducted for plan production.

COOPERATING AGENCIES

Agriculture and Agri-Food Canada; Alberta Conservation Association; Calgary Zoological Society; Environment Canada; Government of Alberta Innovation Program; Montana Fish, Wildlife, and Parks; Parks Canada; Saskatchewan Environment; Wildlife Preservation Canada; World Wildlife Fund; MULTISAR; and all agencies associated with the Alberta Swift Fox Recovery Team.

For more information contact:

Joel Nicholson (*see page 7*)

Alberta Species at Risk Recovery Plan: No. 14
Related Species at Risk report: No. 24

- Department staff continue to work toward minimizing the impact of industrial activities on swift fox populations. Utilization of pre-development wildlife surveys as well as sensitive species setback and timing guidelines for screening development proposals is ongoing. Cooperation with these practices by industry is key to conserving swift fox and other species at risk across the grasslands of southern Alberta.

Research

- Currently research is being conducted in Saskatchewan to assess impacts of natural gas development on swift fox populations. This work will inform wildlife managers regarding industrial land use in swift fox habitat. Preliminary results should be available in 2010.

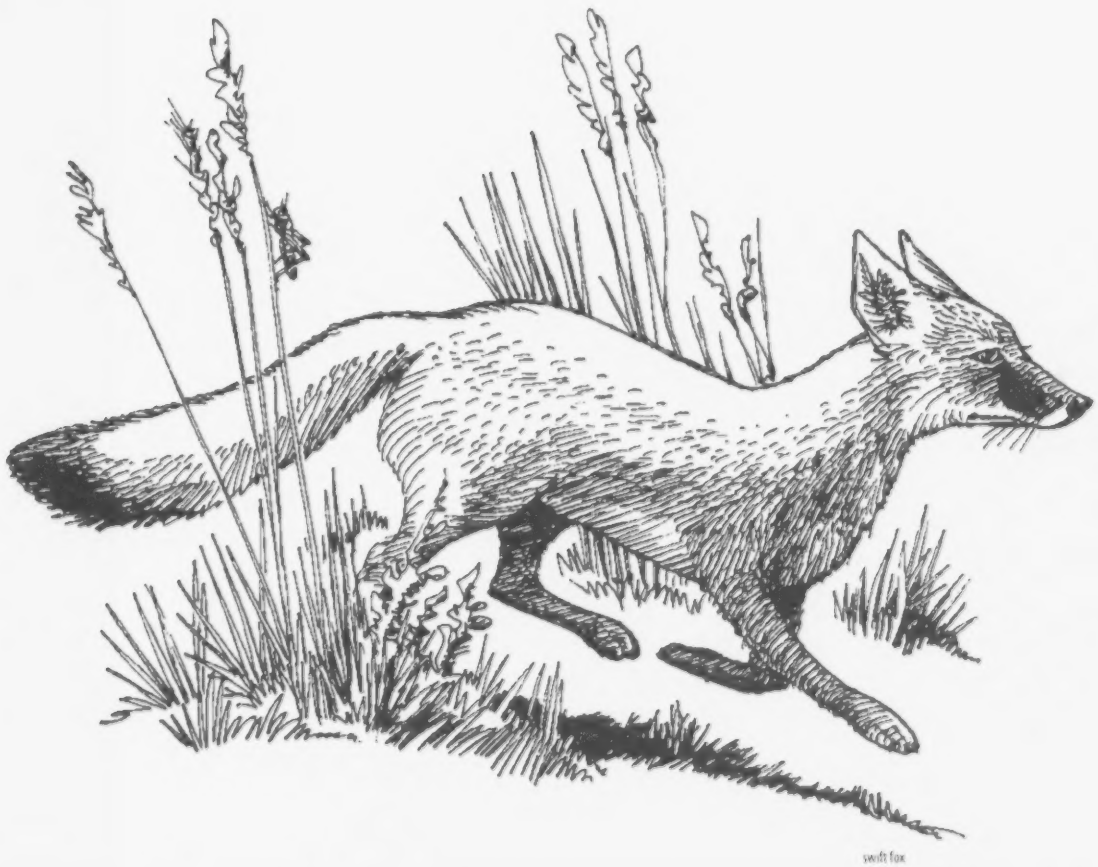
Information and Education

- The swift fox is included in a number of outreach and education programs related to prairie conservation, such as MULTISAR.
- Information on swift fox conservation is readily available on numerous websites, including the Alberta Species at Risk Program site.

Looking Ahead

The next steps in the conservation program for swift fox include preliminary transect layouts for assessing road mortality during yearly dispersal in the late summer and fall. This time period would likely be associated with the highest likelihood of mortality. The goal would be to conduct repeated surveys over several weeks to help determine the magnitude of the problem in Alberta and to provide some initial data.

Along with scoping the magnitude of this problem, the data will provide an opportunity to mitigate future threats (e.g. road design mitigation, culvert placement) and would provide an opportunity to document other species' road mortality data in a systematic manner.



swift fox

GRIZZLY BEAR RECOVERY IMPLEMENTATION

Implementation Leaders: **George Hamilton** and **Nathan Webb**

TARGET SPECIES:
Grizzly Bear (*Ursus arctos*)

STATUS DESIGNATION BY MINISTER:
Status to be determined in 2010[1]

PROVINCIAL GENERAL STATUS:
May be at Risk

purpose | To meet the recovery plan's goal of achieving a self-sustaining population of grizzly bears over the long term.

Background

In 2002, a status report on the grizzly bear was completed, and the Endangered Species Conservation Committee (ESCC) recommended to the Minister of Sustainable Resource Development (SRD) that the species be listed as *Threatened*. This recommendation was based largely on assumptions about populations derived from expert opinion. Owing primarily to the uncertainty of these population estimates, the Minister did not list grizzly bears as *Threatened*, but took alternative steps:

- a recovery team was appointed to develop a recovery plan;
- the framework for managing the spring grizzly bear hunt was reviewed; and
- DNA-based population estimates were initiated to provide reliable baseline estimates.

Hunting seasons and permit allocations were progressively restricted beginning in 2003 and a moratorium on hunting was applied in 2006 (pending completion of a status reassessment). Further, the BearSmart program was announced in 2006 in recognition of the need to minimize grizzly bear mortalities (resulting primarily from human-bear conflicts).

A recovery plan was published in 2008, following departmental and external peer review. In 2008, a departmental project team, with advice from stakeholders and field staff, developed recommendations for managing access within important grizzly bear habitats, a key recovery plan recommendation. Also in 2008, the last of five DNA-based population surveys was completed, providing reliable baseline estimates for most of Alberta's grizzly bear range from the United States border to the Cutbank area south of Grande Prairie. Further DNA-based surveys are not planned for the remaining areas to the north, largely because of the expectation that they would be very expensive and potentially less reliable than the surveys that have been completed. A Science Advisory Committee was established to recommend priorities for research related to grizzly bear conservation. The top priority is to find reliable population estimation and monitoring methods that are more economical than the DNA-based approaches used from 2004-2008. In 2009, a status reassessment was initiated, based on all of the new information on populations and habitat. A recommendation on status from the ESCC is expected to be sent to the Minister in spring 2010.

Progress made toward grizzly bear conservation during 2008-2009 and 2009-2010 is outlined below.

Population Conservation and Management

- In 2006, a three-year suspension of licensed hunting was established, and this was later extended to include the 2009 and 2010 spring seasons.
- An access management project was initiated; progress to date includes completion of core and secondary grizzly bear habitat mapping, completion of an access footprint inventory, and several stakeholder input workshops. Recommendations from the department project team are currently under internal review.
- Work with industrial users and others on food storage and waste handling has been ongoing.
- The Livestock Compensation Policy has been modified to provide improved compensation to ranchers dealing with livestock losses caused by grizzly bears.
- Work has continued with municipalities to reduce bear attractants (including improved landfill and vegetation management).
- In southwest Alberta, approximately 140 road-killed ungulates were transported to 14 high-elevation sites as part of the annual Spring Intercept Feeding Program. This program works to reduce conflicts with agricultural producers by holding bears in remote areas during the livestock calving and lambing season.
- The Fish and Wildlife Division has been responding to grizzly bear complaints from the public, using aversive conditioning methods that employ Karelian bear dogs and other techniques.
- Policies for responding to bear complaints have been updated and offered for public input.

Habitat Conservation and Management

- Foothills Research Institute (formerly Foothills Model Forest) developed a Resource Selection Function (RSF) and mortality risk model to quantify and map grizzly bear habitat, and to predict changes resulting from proposed developments (e.g., access and cutblocks).
- Habitat extent and quality has been mapped for most of Alberta's grizzly bear range.

COOPERATING AGENCIES

Foothills Research Institute; University of Alberta; and the University of Calgary; and all agencies involve din the development of the provincial recovery plan.

For more information contact:

George Hamilton
(George.Hamilton@gov.ab.ca)
or
Nathan Webb
(Nathan.Webb@gov.ab.ca)

or visit the Grizzly Bear Management website:
http://srd.alberta.ca/ManagingPrograms/FishWildlifeManagement/BearManagement/GrizzlyBears/GrizzlyBears.aspx

Alberta Species at Risk Recovery Plan: No. 15

Related Species at Risk Reports: No. 10

[1] Note: The Minister of SRD approved the grizzly bear's status as *Threatened* in June 2010.

- Foothills Research Institute developed a habitat-based model to predict and map grizzly bear movement corridors.
- Regulatory mechanisms for access management have been assessed; recommendations are currently under review.

Research

- The DNA-based population estimate was completed for the Grande Cache unit.
- A population assessment for the Swan Hills unit was completed using habitat-based occupancy models.
- Collection, publication and analysis of mortality data has been ongoing.
- The Fish and Wildlife Division has provided support for research projects related to health monitoring and analysis of the relations between grizzly bear populations and human footprint and use.
- A study to assess aversive conditioning has been completed.
- A Science Advisory Committee has been established to advise on research priorities related to recovery plan implementation.
- A project has been started to consolidate and better manage grizzly bear data.

Plan Management and Administration

- Fish and Wildlife Division continues to participate with the Interagency Grizzly Bear Committee.
- A Memorandum of Understanding has been developed for sharing data with other jurisdictions.

Information and Education

- A carnivore specialist has been hired to work with staff and the public to reduce human/bear conflicts.
- The BearSmart Program has been extended; current BearSmart communities include Canmore, Bragg Creek, Crownest Pass, and Mountain View County. Hinton, Grande Cache, Cadomin, Slave Lake, Nordegg, and Pincher Creek are working toward becoming BearSmart communities.
- Information and outreach to hunters regarding bear identification, safety, and avoiding conflicts with bears has continued.

Looking Ahead

The status update of the grizzly bear is currently underway, and will be completed in 2010.A decision on continuing the current hunting moratorium will be made at a later date. Priority areas for the near future will be:

- Applying access management measures to important grizzly bear habitats.
- Confirming grizzly bear habitat mapping for Chinchaga, Grande Prairie and Marten Hills areas.
- Consolidating grizzly bear data, and making it available to staff, researchers and others; and
- Confirming and communicating research priorities related to grizzly bear conservation.

grizzly bear

WESTERN SILVERY MINNOW RECOVERY IMPLEMENTATION

Implementation Leader: **Terry Clayton**

TARGET SPECIES:
Western Silvery Minnow
(*Hybognathus argyritis*)

***WILDLIFE ACT* CATEGORY:**
Threatened

purpose To protect and maintain a self-sustaining population of western silvery minnow within its current range with the Milk River in Canada.

Background

The western silvery minnow is a *Threatened* species in Alberta, the only jurisdiction in which it occurs in Canada. In 2005, the Minister of Sustainable Resource Development (SRD) formed a multi-stakeholder recovery team. In December 2007 the Endangered Species Conservation Committee reviewed *The Alberta Western Silvery Minnow Recovery Plan 2007-2012*. The plan was approved by the Minister in 2008.

There is no evidence to date that suggests that the Milk River population of western silvery minnow has suffered a decline or that the range has been significantly reduced.

Recent progress toward recovery strategies listed in the recovery plan is outlined below.

Habitat Conservation and Management

- Fall aerial photography was completed in previous years to document key macro-habitat sections for the entire Milk and North Milk rivers. This survey geo-referenced and mapped key habitat features for evaluation. Extensive habitat analysis has also been conducted.
- Distribution maps for this species were provided to Fisheries and Oceans Canada (DFO) for use in determining critical habitat.

Research

- Funding proposals have been submitted for determining spawning strategies for this species.

Information and Education

- Interpretive signage previously developed for Milk River species at risk, including western silvery minnow, and displayed at Writing-on-Stone Provincial Park, continues to be maintained.

Plan Management and Administration

- All fisheries data have been entered into the provincial Fisheries and Wildlife Management Information System.

Looking Ahead

The Department of Fisheries and Oceans has indicated that a review of critical habitat will be incorporated into the federal version of the recovery strategy. The recovery team will be discussing in 2010 how critical habitat should be determined for the western silvery minnow.

COOPERATING AGENCIES

Fisheries and Oceans Canada; Alberta Conservation Association; Environment Canada Habitat Stewardship Program; Freshwater Institute -Winnipeg; and all agencies associated with the Alberta Milk River Fish Recovery Team.

For more information contact:

Terry Clayton
(Terry.Clayton@gov.ab.ca)

Alberta Species at Risk Recovery Plan: No 16

FERRUGINOUS HAWK RECOVERY IMPLEMENTATION

Implementation Leader: **Brandy Downey**

TARGET SPECIES:
Ferruginous Hawk (*Buteo regalis*)

***WILDLIFE ACT* CATEGORY:**
Endangered

purpose

To meet the recovery plan's goal of achieving a viable self-sustaining ferruginous hawk population distributed across suitable habitat in Alberta's Grassland Natural Region through maintenance and/or enhancement of a functional prairie ecosystem.

Background

Not unlike many other grassland species, the ferruginous hawk has experienced substantial declines in population size and distribution throughout much of its range across the prairies, including Alberta and Saskatchewan. In 2006, the Endangered Species Conservation Committee (ESCC) reassessed the status of the ferruginous hawk. The Minister of Sustainable Resource Development (SRD) endorsed the recommendation of the committee to uplist the species from its previous status of *Threatened* (2002) to *Endangered*, under Alberta's *Wildlife Act*. Nationally, the ferruginous hawk was uplisted from *Special Concern* to *Threatened* in April 2008 by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and it is awaiting addition to Schedule 1 of the *Species at Risk Act*.

Progress made toward recovery strategies as listed in the *Alberta Ferruginous Hawk Recovery Plan 2009-2014* is outlined below.

Population Conservation and Management

- Locations of ferruginous hawk nests continue to be considered during review of any industrial application that has the potential to disturb nesting activity, and appropriate setback distances and construction windows are in place.
- An intensive inventory of ferruginous hawks is conducted every five years by the Fish and Wildlife Division. This survey occurs across 150 quadrats within the Grassland Natural Region. The last inventory year was 2005, and the next will commence in spring 2010. Each year in the interim, smaller scale monitoring has been occurring across ferruginous hawk range.

Habitat Conservation and Management

- In 2009, the Fish and Wildlife Division conducted an inventory and assessment of artificial nest platforms that had been erected over the past several decades across ferruginous hawk range to supplement the few remaining nest sites. After a widespread solicitation for all known nest pole locations, 152 of the 199 known nest poles reported were successfully located. Of the nest poles located, 45 had active ferruginous hawk nests. Data were collected on the location, state of repair, and occupancy of these artificial platforms. The survey data are currently being analyzed to determine whether any habitat or man-made features appear to be potential factors predicting use or non-use of nest platforms.

Information and Education

- Aspects of the ferruginous hawk recovery implementation were presented at the 2009 Raptor Research Foundation conference in Pitlochry, Scotland.
- Through the MULTISAR program (see page 27), approximately 10 000 copies of the At Home on the Range guide have been distributed to landholders, watershed and stewardship groups, counties, and various government offices. This guide includes information on best management practices to support ferruginous hawks.
- A new fact sheet on ferruginous hawks and management activities that are beneficial to them was developed through the MULTISAR program.

Looking ahead

The five-year provincial inventory project will run once again in spring 2010. Funding opportunities for additional recovery initiatives as identified in the recovery plan are being pursued.

COOPERATING AGENCIES

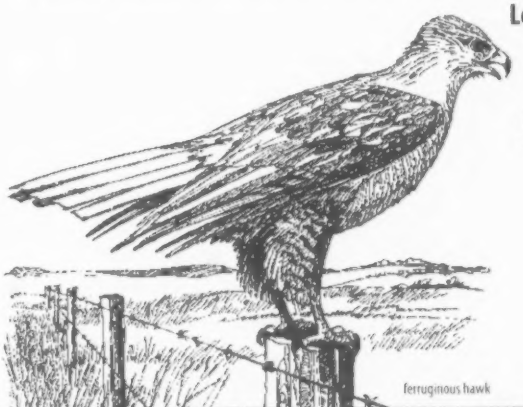
Alberta Conservation Association; Operation Grassland Community; and all agencies associated with the Alberta Ferruginous Hawk Recovery Team.

For more information contact:

Brandy Downey (*see page 7*)

Alberta Species at Risk Recovery Plan: No. 17

Related Species at Risk reports: No. 52, 70, 101



ferruginous hawk

WESTERN BLUE FLAG

An inventory for Western Blue Flag, a Species of Special Concern in Alberta, was completed in the summer of 2009 at 12 of the 17 known sites. The population is currently estimated at between 110,000 and 120,000 stems. Reassessment of one property from the Western Blue Flag Conservation Project was also completed in 2009 by the MULTISAR program. Preliminary results indicate that the stewardship projects, including an off-site watering system, are assisting in the conservation and protection of western blue flag on this property. Additional properties will be assessed over the next few years.

western blue flag

badger

related sources

Alberta Species at Risk Program
http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/Default.aspx

Alberta Species at Risk Program Strategy
http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/AlbertasSpeciesAtRiskStrategy/

Alberta Conservation Association (ACA)
http://www.ab-conservation.com/

Alberta Endangered Species Conservation Committee (ESCC)
http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/LegalDesignation/EndangeredSpeciesConservationCommittee/

Alberta Conservation Information Management System (ACIMS)
http://tpr.alberta.ca/parks/heritageinfocentre/

Map of the Natural Regions and Subregions of Alberta
http://tpr.alberta.ca/parks/heritageinfocentre/naturalregions/

Wild Species: General Status of Species in Canada
http://www.wildspecies.ca/

Committee on the Status of Endangered Wildlife in Canada (COSEWIC)
http://www.cosewic.gc.ca/

Species at Risk Act Public Registry
http://www.sararegistry.gc.ca/

Accord for the Protection of Species at Risk in Canada
http://www.sararegistry.gc.ca/approach/strategy/Accord_Backgrounder_e.pdf

The World Conservation Union (IUCN) Red List Criteria
http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf

2009 IUCN Red List of Threatened Species
http://www.redlist.org/

Previous reports of the Alberta Endangered Species Conservation Committee
http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/LegalDesignation/BackgroundDocuments.aspx

The 2005 General Status of Alberta Wild Species
www.albertawildspecies.ca

Alberta Species at Risk Program and Projects 2000-2001
http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/documents/2000-01SAR.pdf

Alberta Species at Risk Program and Projects 2001-2002
http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/documents/SAR_55.pdf

Alberta Species at Risk Program and Projects 2002-2003
http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/documents/2002_2003SAR.pdf

Alberta Species at Risk Program and Projects 2003-2004
http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/documents/SAR_100.pdf

Alberta Species at Risk reports
http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/ProgramReports.aspx

definition of status ranks

General Status of Alberta Wild Species Ranks

2005 Rank	Definitions
At Risk	Any species known to be At Risk after formal detailed status assessment and designation as *Endangered* or *Threatened* in Alberta.
May Be At Risk	Any species that May Be at Risk of extinction or extirpation, and is therefore a candidate for detailed risk assessment.
Sensitive	Any species that is not at risk of extinction or extirpation but may require special attention or protection to prevent it from becoming at risk.
Secure	A species that is not At Risk, May Be at Risk or Sensitive.
Undetermined	Any species for which insufficient information, knowledge, or data is available to reliably evaluate its general status.
Not Assessed	Any species that has not been examined for the most recent report.
Exotic/Alien	Any species that has been introduced as a result of human activities.
Extirpated/Extinct	Any species no longer thought to be present in Alberta (Extirpated) or no longer believed to be present anywhere in the world (Extinct).
Accidental/Vagrant	Any species occurring infrequently and unpredictably in Alberta; i.e., outside its usual range.

Alberta Species at Risk Formal Status Definitions[1]

Extinct	A species that no longer exists.
Extirpated	A species no longer existing in the wild in Alberta but occurring elsewhere in the wild.
Endangered[2]	A species facing imminent extirpation or extinction.
Threatened[2]	A species likely to become endangered if limiting factors are not reversed.
Species of Special Concern	A species of special concern because of characteristics that make it particularly sensitive to human activities or natural events.
Data Deficient	A species for which there is insufficient scientific information to support status designation.

[1] These definitions are based on those used by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

[2] *Endangered* and *Threatened* are legal designations under Alberta's *Wildlife Act*.

Committee on the Status of Endangered Wildlife in Canada
(after http://www.cosewic.gc.ca/eng/sct0/assessment_process_e.cfm#sec3)

Extinct	A wildlife species that no longer exists.
Extirpated	A wildlife species no longer existing in the wild in Canada, but occurring elsewhere.
Endangered	A wildlife species facing imminent extirpation or extinction.
Threatened	A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
Special Concern	A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.
Not at Risk	A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Data Deficient	A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

For a list of additional reports in the Alberta Fish and Wildlife Division – Species at Risk Series please go to our website: http://srd.alberta.ca/BioDiversityStewardship/SpeciesAtRisk/ProgramReports.aspx

Thank you!

alberta's species at risk program

Alberta
Species at Risk
PROGRAM AND PROJECTS
2008 – 2010

Government of Alberta ■